THIS MONTH'S COVER

Aerosol mold releases are finding increased use in industrial plants both here in the U. S. and in Europe. Newest of the products is "Poly-Lease 77," manufactured by the Barrett Division of Allied Chemical & Dye Corp., New York. It consists of a solution of low-molecular weight polyethylene in a mixed solvent system, and works with either hot or cold molds. It is packaged in a Crown container and uses "Genetron" propellant.

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The magazine of pressure packaging

AEROSOL AGE

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Please enter me in the big Chlordane "Show and Sell" Contest, and rush me full details!

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Store_____

Address_____

City_____ Zone____ State_____

BRICKBATS and BOUQUETS from the MAILBAG

In the article "Aerosols Booming In Australia" which appeared in the January issue of *Aerosol Age*, the prices given for 6 oz. aerosol cans apply only to containers without the dome top. In the interests of correcting this error, prices for cans complete with dome top and 1 inch opening are given below:

Prices per thousand in U. S. currency for 6 ounce cans:

	Plain	*3-color decoration*
per 10,000	$78.00	$91.80
25,000	75.20	82.60
50,000	73.50	79.00
75,000	71.70	75.80
100,000	66.50	70.20

Prices per thousand in U. S. currency for 12 ounce cans:

per 10,000	$102.50	$118.20
25,000	99.00	107.90
50,000	97.00	103.70
75,000	95.50	101.20
100,000	90.30	95.60

For internal lacquering of the cans add $10.00 to $13.50 per thousand. Lithograph containers would also be subject to a non-recurring initial charge for plates of between $65.00 and $90.00 depending upon design.

We regret any inconvenience caused by the publication of this incorrect data, and wish to express our appreciation to Mr. Luke Mueller for calling the matter to our attention.

Andrew H. Wolff
PEGASUS INTERNATIONAL CORP.
New York, N. Y.

Like many of your readers, I have been keeping quiet while continuing to enjoy AEROSOL AGE. It is unfortunate that the flesh doesn't match the spirit more often. However, on behalf of myself and the other silent readers, I would like you to know that the fine job you are doing for the Aerosol industry is very much appreciated.

Hal H. Newell
THE DILL MANUFACTURING CO.
Cleveland, Ohio

In your January issue you published a letter from Dr. Emiliano F. Ruth regarding the aerosol industry in Argentina; and in your February issue there appeared an article by Antonio Arrigoni, Romeko S.R.L., on the same subject. As we in Chile have related problems, we would like very much to get in touch with these gentlemen. Please send us their complete addresses.

We are working intensely on the establishment of an aerosol packaging plant. However, the main difficulty has been to have the aerosol containers manufactured

(*Continued on Page 46B*)

In the Spotlight this month

- **Chicago Packaging Show . . .** The aerosol industry "shows off" its wares to the rest of the packaging industry. A complete filling line, new equipment, and a number of new containers and valves capture much of the attention at the National Packaging Exposition. Photographs and story begin on page 12.

- **Perfumers Hold Symposium . . .** Novelty for its own sake is ruled out as perfumers meet in New York. Story on page 15.

- **Lanolins for Aerosols—II . . .** American Cholesterol, newer entrant into the aerosol field, completes a new plant for the production of lanolin derivatives. Details of plant and product on page 16.

- **CSMA and TGA Announce Meeting Plans . . .** The principal associations in the aerosol and cosmetic fields, both meeting in May, announce their schedules on page 19.

- **Aerosols in Japan . . .** This on-the-spot report of the trials and tribulations of a country described as "ten years behind the U.S." in aerosol development will bring back to the more seasoned members of the U. S. industry memories of similar experiences. Story on page 21.

- **Panel Discussion on Insecticides . . .** Insecticidal aerosols, still a leading product type in the industry, are the subject of a panel discussion by representatives from leading U.S. and Canadian government agencies.

- **Aerosols in Review . . .** This month the column is headlined by a summary of "Unprotected Glass Aerosols," an article by an English chemist that is causing much heated discussion in the U.S. This and other summaries from current periodicals appear on page 34.

EDITORIALS

Uncoated Glass Aerosols

A recent issue of the British magazine *Soap, Perfumery, and Cosmetics* carries an article that is understandably causing considerable concern among members of the U. S. aerosol industry. The article (reviewed on page 34 of this issue) condemns the idea that even "low-pressure" uncoated glass aerosols can be regarded as safe for ordinary consumer use.

Were this a slanted editorial argument, or even an ordinary run-of-the-mill technical article, it could possibly be dismissed as one of the usual sensation - seeking pronouncements designed to publicize an author through his efforts to protect the public from a non-existent danger. However, unfortunately for the future of uncoated glass aerosols, this particular treatise is apparently thoroughly-documented, well-written, and based on sound scientific fact. To bolster an already strong argument, a whole series of photographs—graphically illustrating the dangerous effects of bursting glass aerosols—is included.

The conclusions, readily drawn from the evidence, all add up to the fact that an uncoated glass aerosol, dropped from above a minimum height, or onto a sufficiently hard surface, may cause serious physical harm to the user. From the practical standpoint, this article (if the findings are confirmed in U. S. laboratories) will very probably deal a severe blow to future use of unprotected glass aerosols (and conversely, will give a corresponding lift to the sale of coated glass, nylon, and the newer luxury-type metal containers).

What the U. S. industry must do now is obvious. The scales of decision must be balanced between a promising perfume and cologne market (one that will do equally well packaged in coated glass or metal) and the possibility that serious injury or even death could be the result of a few accidentally-dropped aerosols. A single death or serious injury attributable to a bursting glass aerosol (and publicized as such) could blacken the reputation of the entire industry for years to come. The old bugaboo expression "bomb" could come back to haunt us, and this time might well stick.

What is now to be done in the light of the Pickthall findings? To begin with, a complete airing of the subject is in order, and the sooner, the better. As inferred earlier, the evidence presented is so strong that it can be neither ignored nor simply swept under the rug. The Pickthall findings should be checked and cross-checked in American laboratories, and further studies made on every aspect of the question. The CSMA's glass aerosol committee has had the subject under study for several years, but up to now (pending back-checking of results in laboratories of packagers of glass aerosols all over the country) no definite report has been issued. This work should now be speeded up as much as possible and a report on the subject issued promptly by this association that has been most closely connected with development of test methods and safety standards for the aerosol industry.

If the findings of these other research workers confirm those in Mr. Pickthall's article, present test methods for coated and uncoated glass aerosols should be intensively restudied and perhaps revised. Speed and prompt action are of the essence in this situation; for (in the words of many an old cinema hero) it may well be "a matter of life or death"—not only for uncoated aerosols but for future hopes of a $600 million industry.

PACKAGING

RECORD crowds marked the American Management Association's 26th annual Packaging Exhibition during its four day stay at Chicago's huge International Amphitheatre, April 8-11. Three hundred exhibitors demonstrated the latest in packaging materials, methods and machinery to daily attendances in excess of 27,000 people.

High on the list of interesting displays were those devoted to aerosols, and exhibits ranged from a general aerosol information center to an operating aerosol filling line.

This year's theme of aerosol exhibitors was two-fold, stressing "Increased Profits From Aerosols", and that aerosol packaging represents a simple contemporary method of product packaging and dispensing. Regarding its simplicity, it was emphasized that the aerosol principle involves basically no more difficult a filling operation than that involved in filling tooth paste tubes. Though employing different materials and machinery, the aerosol container, like the tube constitutes a dispensing medium as well as a package.

In more than one area "Increased Profits From Aerosols" seemed to make the desired impression on many visiting packagers. The General Chemical Division of Allied Chemical and Dye Corp. was beseiged at its "Aerosol Information Center" with requests for information on every phase of aerosol technique and material. General's center was by no means patronized solely by those new to or contemplating entry into the industry. New methods and materials were commonly discussed by many visitors who rank as the most experienced in the industry. To aid General's staff, many major container and valve manufacturers displayed samples of their products and supplied information on their uses and individual advantages.

One of the larger of the aerosol booths at the Packaging Exhibition was that of Mojonnier Associates, Inc. A complete aerosol filling line was on display, as well as containers, valves, and other equipment.

BELIEVING that the aerosol packaging principle is for anyone with a marketable and technically suited product, Mojonnier Associates, Inc. set out to demonstrate vividly that aerosol filling requires no more basic skill than other methods of packaging. According to Albert Mojonnier, company president, "All too many packagers associate the word aerosol with a highly secret technically complicated process of packaging. On the contrary, aerosol is basically no different than any other method of filling. Other filling operations require an ingredient to be put in a can, jar or tube. The aerosol requires the exact same thing, but in addition puts the dispensing method right in with the ingredient by means of a propellant and valve."

Mr. Mojonnier further stated that the basic technical research and experimentation required to bring aerosols from the gadget stage to a point of practical packaging and dispensing has long since been accomplished by the combined efforts of propellant, container, valve and machinery manufacturers as well as the contract fillers. In order to demonstrate that the aerosol can no longer be regarded in the realm of the mysterious, and is a practical and profitable packaging method. Mr. Mojonnier pointed out that the operating line in his company's exhibit was being demonstrated by four girls having *no* previous aerosol filling experience.

The big question in the aerosol industry today is where will the next big advances be made. Crown Cork and Seal Co. suggests that certain food and drug products may well be next and open an entirely new era for aerosols. Butter for instance, packaged in aerosol containers might readily be sprayed on toast. Cake frostings have long been thought of as an ideal product in aerosol form and cheeses and, salad dressings may well be added to the list. Various types of topical antiseptics may become important factors in pressurized pharmeceuticals. Crown's exhibit centered around a provocative demonstration of how aerosols might well find their place in the packaging of many food products similar to the already familiar whipped cream topping. It was the opinion of many that aerosol food products, the great "sleeping giant", may well have been nudged into awakening at the 1957 Packaging Exhibition.

THE growing dominance of self-service and self selection merchandise is resulting in aerosol containers with more built-in sales appeal.

by ROBERT GARTY
Aerosol Age Midwestern Representative

SHOW...

Aerosols attract much attention as record crowds attend four-day exhibition in Chicago April 8-11

Typical of the aerosol industry representation in Chicago was this group at the General Chemical information center. Left to right: Jack Campbell, Continental Filling; Ralph Thomas, Bristol Myers; Harry Peterson, Peterson Filling (who is also president of the CSMA); George Dietrich, and Arthur Butler, General Chemical.

In keeping with this trend, the National Plastic Products Co. showed their new nylon container. Available in several colors and shapes, with an eye catching closure, the new container lends sales appeal to prestige products in the cosmetic line.

Also following the trend of more eye appeal, were Sterling Seal Company's aerosol closures. Color, size, and shape (all tailored to an individual products requirements) seem to have the one objective of influencing the buyer.

The science of electronics has entered the aerosol industry with General Electric's "Aerosol Leak Detector". So sensitive is this device that it will detect propellant leakage the equivilent of one ounce per year. Easily located at the end of a filling line, the compact detector will automatically scan every unit and warn quality control personnel either by sound or light of a defective unit. The detector spots leaks that would go unnoticed in water baths.

High speed coding machines were demonstrated by Kiwi Coders. Aerosol units coming off a filling line pass through Kiwi's automatic coder and are stamped on the bottom with serial or batch numbers. The equipment is designed to be connected to filling lines so that assembly line production is constantly maintained.

One thing that was readily evident among the non-aerosol exhibitors was the suggestion of new and more efficient ways of product dispensing that would require little if any fuss or effort on the part of the consumer—notably the housewife. The keynote was convenience. Self metering containers that automatically measure any free-flowing dry product while pouring, such as cereal, rice detergents, etc.—a new slide top cigarette package. The crush proof box requires but a slight tap and a cigarette pops up (you still have to light it yourself!) — squeeze packages for dispensing everything from jam to deodorant — aluminum packages for prepared cake frostings (with their own built in decorator's gun), cheese packs that gradually eject the product for easy and economical slicing, macaroni in a perforated foil bag that boils with it and permits easy draining after cooking—and as well might be imagined at this point, a package that doesn't even have to be opened, but to be used, is merely dropped into water. The package, made of a water soluble film dissolves to release such products as soap or detergent.

Noting these efforts, it is readily understandable why aerosols are so much on the right track, and least of all not really so different from any other method of packaging. All one does is press a button—what could be simpler?★

Gulf Development Announces New Value

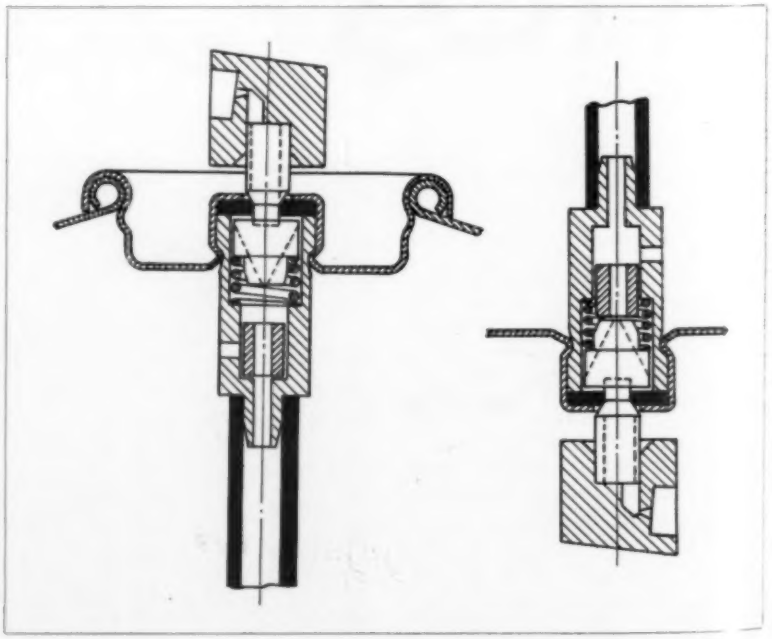
GULF Research and Development Co., a subsidiary of Gulf Oil Corp., Pittsburgh, has developed a new valve which it says will permit the aerosol dispenser to be sprayed in either an upright or an inverted position. The new design permits the user, without adjusting the valve, to select either a dry or wet spray simply by holding the dispenser upright or inverted, and valves may also be designed to give only a dry or only a wet spray in both positions.

The company points out that conventional dispensers with eductor tubes require the package to be held in an upright position, and that dispensers without eductor tubes must be held in an inverted position. If packages have valve by-pass, which allows spraying in either position, abnormal loss of gas occurs when they are sprayed upright. This loss of gas reduces delivery rate and changes the spray characteristics as the dispenser is emptied.

One example of the new design (as noted in the sketch) uses a gravity slide or other device to open or close an orifice in the valve body, depending upon the position of the dispenser. When upright, the orifice is closed, preventing loss of gas. When inverted, the orifice is open, and liquid contents are discharged by passing directly into the valve body. The new valve can be incorporated into existing valve designs, and reportedly will be inexpensive.

The new design was developed at Gulf's Research Center, Harmarville, Pa., where research on aerosols has been conducted since 1943.

Gulf has sold insecticide aerosol bombs under its "Gulfspray Aerosol Bomb," "Gulf Moth Proofer," "Gulf Ant and Roach Bomb," and "Gulfmist Aerosol Deodorizer."



Perfumers Symposium in New York

New fields seen opening up for uses of fragrance. Predict discarding of novelty for its own sake in perfume packaging.

H. GREGORY THOMAS, president of Chanel, Inc., New York, told the American Society of Perfumers that the perfume trade will remain largely concentrated in currently existing retail channels (such as drug and department stores) for some time to come.

Speaking at the Third Annual Symposium on Fragrance at the Essex House, New York, on March 20, Mr. Thomas (who was presented with an honorary membership in the society later in the meeting) talked about fragrance types and merchandising methods. "In perfume packaging," he said, "there may be a discernible trend away from extreme novelty for its own sake, but there is no trend toward any one style." Mr. Thomas declared that the perfume industry must persuade American women to use perfume as a daily habit, before sales will rise to any degree.

Imaginative new uses of fragrance cited by Mr. Thomas include; a new car odor which can be sprayed on old cars by used car dealers, a leather odor to be used on artificial leather products, and an artificial bad smell which can be added to odorless chemical fertilizers in retail outlets. With such new uses as these in mind, and recognizing the strides being made in the development of synthetic perfumes, Mr. Thomas told the conference that "there is a new world right under your nose."

Describing the research trends in perfumery materials, Dr. Paul Z. Bedoukian said that an enormous volume of chemical research underlies today's large-scale production of widely diversified synthetic odorants. He predicted that the trend away from essential oils may be reversed by the availability of better "synthetic essential oils." "Research will be intensified to identify still unknown key components of flowers, fruits, and vegetables," he said.

Dr. Amos Turk, a consulting chemist, told of odor preferences among domestic consumers and cited the three primary methods for controlling domestic odors. He listed the advantages and disadvantages of each. First was activated carbon sorption which is non-selective, automatic, and convenient. Disadvantages cited were that the action is not immediate and the equipment needed must be increased in relation to the strength of the odor it is combating.

The second method, catalytic oxidation, controls cooking odors at the source, but works only at very high temperatures. The diffusion of pleasant odors, the third method discussed, was favored over the first two because it is rapid in action and less expensive.

Dr. Turk also cited recent work on objective evaluation of odor preferences, including the study of personality factors which may determine acceptance at subconscious levels.

THE problems connected with bringing some order into the "chaotic world of fragrance" were discussed by Camille H. Bourguet, of American Aromatics, Inc. He said that the perfumer must develop a classification system and a means of olfactory analysis of complex fragrances to work systematically.

When a flower is smelled, he said, the aromatic components do not appear one by one, but groupwise. The most outstanding of the components is the keynote. Mr. Bourguet illustrated a method of grouping the major floral fragrances by using the keynotes in such a way that each bears a marked similarity to its neighbors.

Starting with the violet, Mr. Bourguet charted the keynotes through cassia, mimosa, reseda, rose, the lillies, honeysuckle, jasmins, orange blossom, wistaria, locust, wallflower, heliotrope, hawthorn, lilac, carnation, ylang ylang, narcissus, tuberose, gardenia, clover, cyclamen, and back to the violet. "Thus in one cycle," Mr. Bourguet concluded, "the most important floral odors are classified in an easily used sequence."

Harry C. Saunders, Givaudan-Delawanna, Inc., cited the trend toward the use of more synthetic products in perfumery. He pointed out that the early resistance to this practice is being progressively replaced by a serious and determined effort to expand the uses of synthetics. This change is largely due to the steady expansion of the industries consuming perfume materials, whose requirements can no longer be met by naturally derived products alone, he said.

The search for fragrant bodies, Mr. Saunders continued, has branched out as it is now recognized that good perfume value is not limited to compounds with structures closely related to those of natural products. "On the other hand," he declared, "it is becoming more apparent that the fragrance of natural isolates depends much upon the presence of their minor components."

(*Continued on Page* 53)

American Cholesterol...

. . completes new plant in N. J. for production of lanolin derivatives

AMERICAN CHOLESTEROL PRODUCTS, INC., Milltown, N. J., manufacturers of "Amerchol" steral products and acetylated lanolin derivatives, last month began final equipment assembly on its new plant at Amerchol Park, Edison, N. J., which will make it one of the leading lanolin derivative producers in North America. Completion of the project this spring, coupled with the company's newly initiated advertising campaign aimed at the aerosol industry, is expected to make it a major factor in the stepped-up development of cosmetic aeosols.

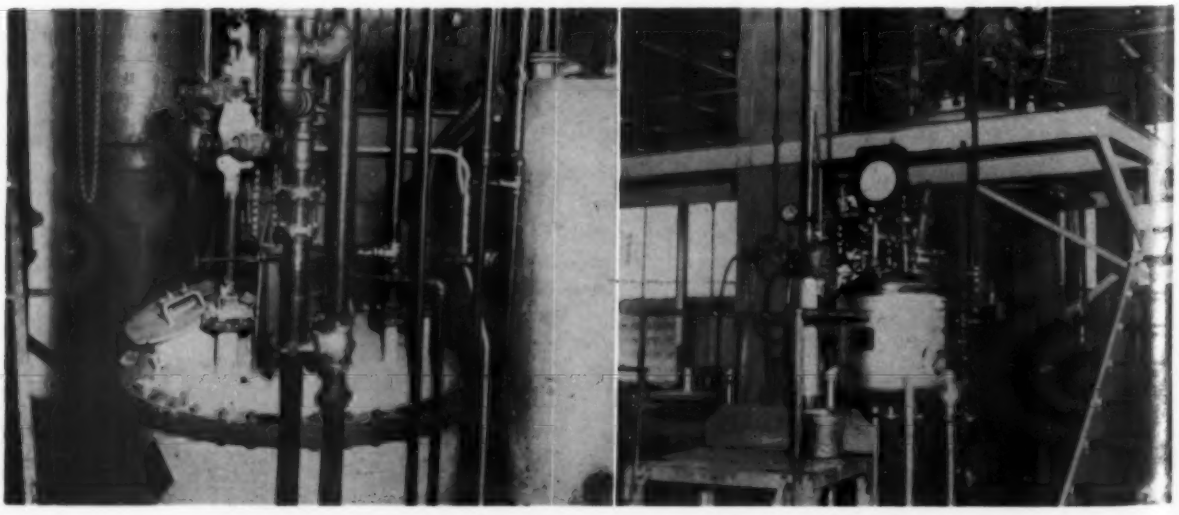
The one-story plant, especially designed for safe, highly-efficient production of the derivative products, is located near the Pennsylvania Railroad in what not long ago was Middlesex County farmland. It contains 35,000 square feet of floor space, a good portion of it as much as 22 feet high with space for storage and operational mezzanines. Employing the relatively small force of 40-50 (including office and laboratory personnel) much of the manufacturing process will be automatically and semi-automatically controlled.

Among the unique features of the new plant are:

1. A 4000-square foot laboratory, with separate air conditioning, shadowless lighting, washable marble-faced block walls, and individually equipped lab tables with both central and individual vacuum systems. Attached to it is a small lab which may house a future, aerosol laboratory, an office for the chief chemist, a library and complete power and reaction facilities for lanolin research. It will have a staff of 15 available for basic research, product development, control, and technical services for customers.

2. An explosion-proof manufacturing installation with specially sealed motors and switches. This is the heart of the American Cholesterol process. When fully assembled it will contain 22 giant reactors, a similar number of condensers, and a network of pipes and control devices. Since much of the operation in this section of the plant is automatic, a system of dials, switches, and valves controls the reaction process. Each of the stainless steel reactors will have a capacity up-

A close-up and distant view of some of the giant reactors that are the most important components of the manufacturing process. In the foreground of the photo at right is a pilot reactor.



Lanolins for Aerosols . . . II

Architect's drawing of the new Edison, N. J. plant.

wards of 1200 gallons, and will be equipped with variable speed drive and double motion rotating scrapers for added efficiency.

3. An outdoor ground waste disposal system built around two rectangular lagoons with a combined capacity of two hundred and fifty thousand gallons of water. Liquid wastes coming out of the reaction process first will enter a neutralization tank (connected directly to the laboratory through a system of sampling pipes). Laboratory technicians will continuously test the tank, introduce the proper neutralizing solution, and the contents of the tank can then be pumped to the evaporation lagoons.

The plant boasts of a number of other innovations. A 525-foot deep artesian well, pumping 200 gallons of water per minute, will provide a supplementary supply for the manufacturing operation and supply the air conditioning units. In the boiler room (which contains one low and one high pressure boiler for the lanolin processing equipment and heating units) company engineers have devised a new electrical method of heating the heavy oil pipes bringing in the fuel oil. Two transformers and a special 1200 amp panel system will supply the plant's electrical needs.

The principal products of the plant will be a number of substances derived from lanolin. Lanolin, a fat-like substance extracted from the wool of sheep, is essentially a mixture of esters formed from many types of alcohols and a variety of fatty acids. One of the company's patented processes obtains from lanolin certain derivatives by acylation of the hydroxyesters, resulting in replacement of the hydrogen of the hydroxyl group with an acyl radical. These derivatives have been utilized for a number of years in the manufacture of various cosmetic and pharmaceutical products, and the newly-intensified development of cosmetic aerosols has substantially increased demand for lanolin-based products in various phases of that industry.

THOUGH it produces a number of these substances, American Cholesterol's chief products of interest to the aerosol industry are "Amerchol L-101," "Acetulan," and "Modulan."

"Amerchol L-101" is a liquid, multi-sterol, non-ionic, surface-active penetrant, emollient, and emulsifier. The company arrived at the substance after what is described as "an extensive research program to produce a highly active natural penetrant and softening agent which would give the utmost benefits to the skin and hair." "Amerchol L-101" is made by utilizing the colloidal properties of cholesterol and certain of the related sterols (including cholesterol, agnosterol, lanosterol, 7-dehydrocholesterol, dihydrocholesterol, and cerebrosterol) and a number of complex alcohols, all of natural lanolin origin, in a liquid form.

Since its introduction, Amerchol L-101 has come to be used as a secondary emulsifier, stabilizer and emollient for oil-in-water emulsions, and as a primary emulsifier for water in oil emulsions. In oil-in-water dispersions it functions at the interface of the dispersed droplets by toughening the interfacial film. This has the effect of giving to the emulsion better stability, richer appearance, high gloss, creamy texture, and improved softening and penetrating effects. Even in low percentages in oil-in-water emulsions, its presence is reported to have proven very effective in reducing irritation due to soaps, alkalies, cationic and anionic detergents and amines.

In water-in-oil emulsions with "Amerchol L-101," a pure white color and texture and sheen are obtained that are claimed to be especially suited for emollient and hormone creams, make-up, hair dressings, and pharmaceutical preparations.

"Amerchol L-101" has been used extensively as a plasticizer for pressurized PVP hair sprays, and the company expects its characteristics will extend its use to a number of other cosmetic aerosols. Its specifications are:

Color	pale yellow
Odor	faint, characteristic sterol odor
Melting Point	liquid
Spec. Gr.	0.835 to 0.845 at 25°C.
Viscosity	Saybolt 80 to 90 at 38°C.
Moisture	none
Ash	none
pH, in water emulsion	Approx. 7
Acid number	negligible
Ester number	negligible
Bulk	7 lbs. to gallon

"Acetulan," second of the company's derivatives for the aerosol industry, is the liquid fraction of acetylated lanolin alcohols. It possesses a number of properties which lend themselves to use in lotions, creams, shampoos, baby products, and other aerosol and non-aerosol cosmetic and pharmaceutical products. In pressurized products it acts as a softening agent, penetrant, emollient, and as a plasticizer and co-solvent with the various components of the aerosol formulation. (American Cholesterol has been working closely with General Chemical and Dodge & Olcott in the development of its aerosol formulas.) In all types of liquid emulsions "Acetulan" seems to serve a double purpose, stabilizing emulsion viscosity at a fixed point and at the same time imparting a desirable waxy feel.

It is completely soluble in 95% ethanol and in mineral and castor oil, also in vegetable oils, isopropyl myristate, isopropyl palmitate, isopropanol, butyl stearate, and ethyl acetate. In shampoos and other transparent liquid products, it possesses the advantage of foam stabilization and prevention of defatting action, at the same time not affecting the clarity of the solution. It is also found to be effective in anti-dandruff preparations, and is readily incorporated into talc and powdered products.

In suntan and sunscreen preparations "Acetulan" has been found to provide solubility, spread and penetration, hydrophobicity, and emolliency — all in one substance. Its properties are:

Color .....pale straw
Odor .....practically odorless
Acid number 0.36
Saponification number 190.3
Hydroxyl number 2.1
Melting Point .....liquid
Moisture .....none
Viscosity.....40 Saybolt at 100°F.
Specific Gravity .....0.867 at 25°C.
Ash .....none
Water soluble acids,
alkalies, USP XV...neutral to litmus

CLOSELY allied chemically to "Acetulan" is the third of the company's lanolin derivatives for aerosols, "Modulan," which is also soluble in mineral oil and in vegetable oils.

In concentrations up to 10% at room temperature in mineral oil solutions, "Modulan" remains clear and stable. As with the other acylated lanolin derivatives, when applied to skin and hair it leaves a water-resistant protective film which is inherently softening and which prevents defatting in a positive manner. With these properties its application in such products as baby oil and hair dressing is obvious.

Acting with efficiency as a stabilizer, emollient, and superfatting agent in oil-in-water emulsions, it may be used in far higher concentration than can lanolin itself. Since "Modulan" is not a water-in-oil emulsifier, it does not suppress foaming characteristics when used as a superfatting agent in soaps and shampoos.

Among its suggested uses are in the production of oil-in-water creams and lotions, ointments, hair dressings, and shampoos, all of which have already been (or are about to be) brought out in aerosol form. Thus far its chief aerosol use has been as a superfatting agent in aerated shave creams. Its chemical and physical properties are:

Color .....pale yellow
Odor .....faint, pleasant
Consistency..unctuous solid at 25°C.
Melting Range .....30-40°C.
Specific Gravity.0.930-0.940 at 25°C.
Moisture .....anhydrous
Water soluble acids..aqueous extract is neutral to litmus

American Cholesterol's Edison plant will produce its many lanolin derivatives by controlled saponification, hydrolysis and esterification reactions in the 22 reactors and supporting equipment. The fatty acid esters of lanolin resist hydrolysis, but complete saponification and other reactions of lanolin are accomplished without oxidation or degradation by the use of mild reagents and inert gases. The derivatives are purified by absorption, filtration, and distillation operations carried out under nitrogen. The final steps involve crystallization and high vacuum deodorization of the sterol and lanolin products before filling into shipping containers.

In addition to a new advertising campaign to begin next month, American Cholesterol will shortly bring out a bulletin especially for the aerosol industry. It will outline a number of suggested formulas for such products as hand lotions, shaving creams, shampoos and hair lotions, in addition to listing the characteristics and other uses of the derivatives. The company's expansion program and newly intensified interest in pressurized packaging seem to reflect a real optimism about the prospects for cosmetic aerosols. ★★

This article is the second in a series on lanolin and lanolin derivatives for use in cosmetic aerosols. Each of these articles is by, or about, a leading lanolin manufacturer, and concerns itself mainly with the specific applications of various products for pressurized packaging.

Reddi-Wip Names Thompson

T. C. Thompson, formerly director of marketing, has been elected vice-president in charge of sales and administration by Reddi-Wip, Inc., Los Angeles pressurized whipped cream company.

TGA Lists Complete Program for 22nd Annual Convention

THE 22nd annual convention of The Toilet Goods Association, to be held May 7-9 at New York's Waldorf-Astoria Hotel, will have as its theme "Personality—Key to Future Profits." The keynote address to be delivered May 7 by Otis L. Wiese, editor and publisher of *McCall's*, will be titled "The Changing Personality of Our Times." Mr. Wiese will describe the underlying forces that shape the personality of America today, and strongly affect the toiletries market.

Chairman of the 1957 convention will be J. I. Poses, of D'Orsay Sales Corp., who has announced that his program committee has planned a program balanced to meet the problems of both large and small manufacturers. The three business sessions will be devoted to panel discussions of packaging, distribution, and promotion—and the manner in which each can help to build the unique personality of a particular product.

An unusual feature of the convention will be the three panel discussions, in which a "jury box," filled with a group of other distinguished representatives of the toilet goods industry, will be a fixture of each discussion. Members of the "jury" will question the speakers on each subject.

Highlights of the convention schedule include:

Tuesday afternoon May 7—"What Women Want in a Toiletries Personality," by Florence Goldin, Grey Advertising.

Tuesday afternoon May 7—"Personality and Your Package"
- Chairman: Jack Cawley
- Panel:
  - Kay Brown, Yardley of London, Inc. "Packages and Women"
  - Donald Desky, Package Designer — "Product Personality in Your Package Design"
  - Lloyd Stouffer, *Modern Packaging* — "New Packaging Trends."

Wednesday morning, May 8—"The Changing Personality of Toiletries Distribution"
- Chairman: Jean Despres, Coty, Inc.
- Panel Members:
  - Ade Schumacher, Liggett-Rexall Drug Stores—"Changing Personality of Today's Drug Store"
  - Dr. Herman Nolen, McKesson & Robbins—"Changing Personality of the Drug Wholesaler"
  - Joseph Handleman, Handleman Drug Company — "Changing Personality of Today's Super Market"
  - Phillip Schindell, Limited Price Variety Association—"Changing Personality of the Variety Store"
  - John Strauss, R. H. Macy — "Changing Personality of the Department Store"

Wednesday afternoon, May 8 — "Building a Product Personality Through Promotion"
- Chairman: Donald Bryant, Warner-Lambert Pharmaceutical Co., Inc.
- Panel Members:
  - Donald Frost of Bristol-Myers Co., and Norman Mack of Peck Advertising—"Personality in Advertising"
  - Janet Myers, Bourjois, Inc.—"A Personality for Tomorrow"

Thursday, May 9—Meeting of the Scientific Section, under the direction of Chairman of the Section: Orville Davenport, Avon Products, Inc.

PROGRAM

"Interference of Non-Ionic Emulsifiers with Preservatives V, Chromatographic, and Chemical Investigation" by Constance Hall and Maison G. deNavarre, Cosmetic Laboratories, Inc., Division of Beauty Counselors, Inc.

(*Continued on Page* 61)

CSMA Releases Basic Schedule for Mid-Year Meeting in Chicago

THE Chemical Specialties Manufacturers Association last month released basic program schedules for its 43rd mid-year meeting May 20-22 at Chicago's Drake Hotel. At the same time H. W. Hamilton, association secretary, announced that advance registrations must be received before May 15, and that after that date registrations will have to be made at the meeting.

According to Mr. Hamilton, an estimated attendance of over 800 is anticipated, on the basis of reservations made up to April 2. All rooms and suites at the Drake have already been reserved, but some additional rooms and suites are still available at the nearby Knickerbocker and Seneca Hotels.

Included on the program will be reports of the annual aerosol and pressurized packages survey, plus similar surveys of the other divisions of the CSMA. During this meeting the Aerosol Division will hold a joint session with the Insecticide Division. The company "open house" feature of the meeting will be held on Tuesday evening, May 21.

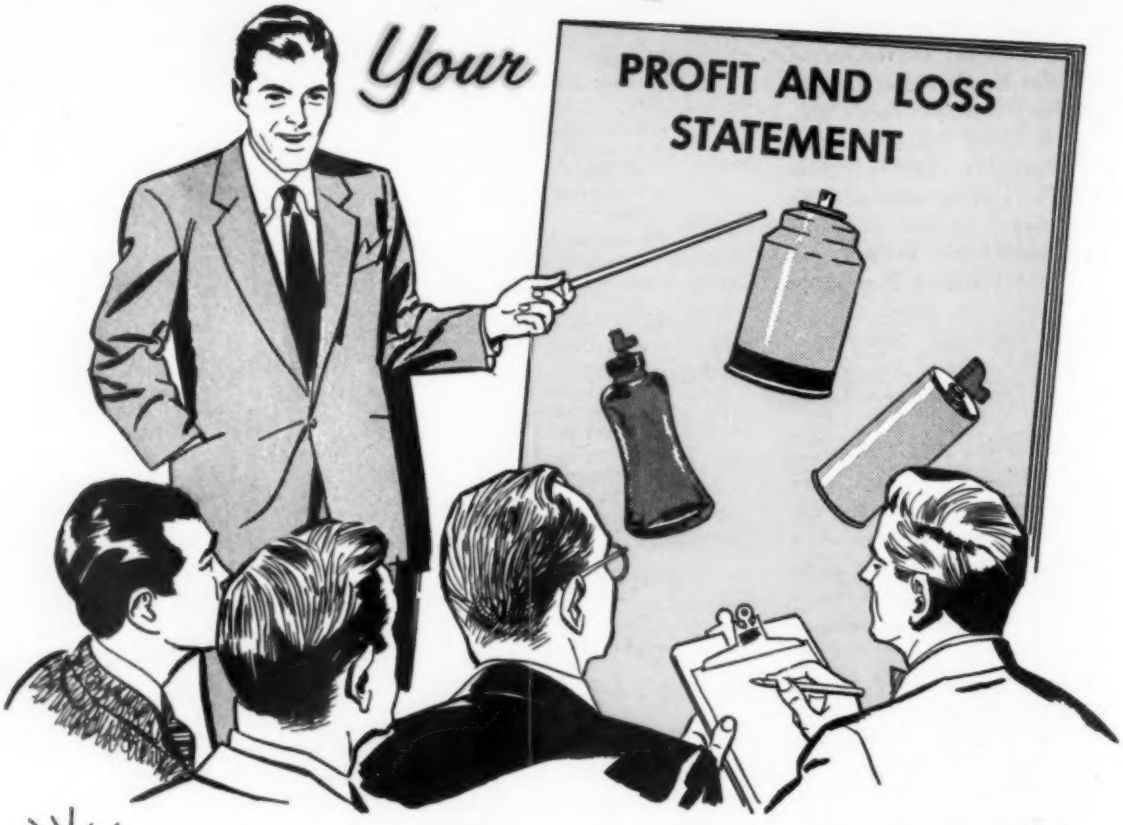
The basic meeting schedule is as follows:

Monday, May 20, 1957
- Board of Governors
- Committees

Tuesday, May 21, 1957
- Morning
  - Aerosol Division
  - Disinfectant and Sanitizers Division
  - Soap, Detergents and Sanitary Chemical Products Division
  - Waxes and Floor Finishes Division
- Afternoon
  - Automotive Division
  - Insecticide Division
- Evening
  - Open House

Wednesday, May 22, 1957
- Morning
  - General Session
- Afternoon
  - Joint Session
    - Aerosol Division
    - Insecticide Division
  - Joint Session
    - Automotive Division
    - Waxes and Floor Finishes Division
  - Disinfectant and Sanitizers Division
  - Soap, Detergents and Sanitary Chemical Products Division
- Evening
  - Cocktail Party
  - Banquet

How to Improve Your



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Any product that will spray, daub, or dust can become an aerosol—with the prospect of booming sales overnight. Aerosols strike the public fancy because they offer ease and convenience.

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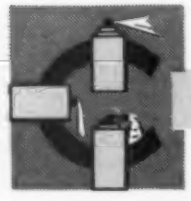
Without spending a dime for plant or equipment you employ the "know-how" of pioneers in Aerosol filling. Continental's craftsmen take over your idea, develop it, then handle your whole packaging problem with ease and economy. The end result is a highly saleable product, with the consistent high quality you demand.

FREE PICTURE BOOK. Write today for your copy of "An Ideal becomes Real." Its easy-to-read picture pages describe Continental's services in every detail.



CONTINENTAL FILLING CORPORATION

Aerosols In Japan

by H. Iosaki
King Trading Co.
Kobe, Japan

AEROSOLS were first introduced into Japan with the coming of the occupation forces after the war. The first product was a high pressure insecticide. People in this country took a fancy to pressurized containers almost at once, when they saw army personnel use them so freely and effectively, and a number of persons in Japanese industry were quick to note their simplicity of operation and convenience.

Some of the first to appreciate the potential of aerosols were I. Inouye, of Amagasaki City (near Osaka), and T. Ikeya, of Tokyo. Both applied for valve patents as far back as 1949, Mr. Inouye on August 27 and Mr. Ikeya on Sept. 20 of that year. During that year there was another patent (granted to Z. Saiga) describing a device using methyl chloride* as the propellant; though in most cases air pressure, rather than an active gaseous propellant was used. Mr. Saiga's attempts to produce aerosol insecticides soon ended in complete failure, however, principally because of his use of methyl chloride as the propellant.

In the following year, 1950, on the suggestion of N. Iosaki, who is now president of King Trading Co., Ltd., of Kobe, (now sole agents in Japan for McLaughlin Gormley King Co., Alpha Engineering & Machine Works, Aerosol Research Co., Motomco Export Corp., and a number of other American firms) several pyrethrum insecticide manufacturers joined forces and began production of an aerosol insecticide utilizing empty beer cans, with methyl chloride as the propellant. This also ended in failure — with unsatisfactory cans, valves, and propellant all contributing.

Looking back to this particular failure, it would seem that the highly corrosive characteristic of the propellant was the principal factor in malfunction of the aerosol, coupled with the inferior quality of the rubber used in the valve. It should be pointed out that the fluorinated hydrocarbon propellants were, up to this time unknown to Japanese aerosol manufacturers.

Fluorinated hydrocarbons had been produced (by the Osaka Metal Industry Co.) since 1933, but the quantity produced was so small that the entire production was used by the Japanese Navy. Even to the few who knew the utility of the fluorinated propellants, they were extremely difficult to obtain even after the war. Under such circumstances, the general public had very little conception of either the values or the capabilities of fluorinated hydrocarbons.

THESE successive failures discouraged aerosol manufacturers, and temporarily stopped the development of the industry in Japan. Although costly sacrifices for the concerns involved, these failures did serve to provide stepping stones to the industry's present progress. Despite these lessons, and successes since, it is my opinion that the Japanese aerosol industry today is something close to ten years behind that of the U. S.

During these "dark ages" of failures and discouragements for aerosols in Japan, many interested persons began studies of U. S. patents and as a result a number of improvements were made and technical problems solved. In 1951, Japan Low Pressure Industry Co., Tokyo, commenced production of insecticide and spray net — still using methyl chloride as the propellant.

The first company to use fluorinated hydrocarbon propellants was Nippon Aerosol Industrial Co., Osaka, which

* The author specifies that this is methyl chloride (chloromethane) the refrigerant gas as opposed to methylene chloride (dichloromethane), the solvent that is used in aerosols today.—*Editor*

began production on August 25, 1952. At that time this propellant cost the manufacturer $3.80 per kilo, driving the retail price of a 12-ounce concave-can of aerosol insecticide to about $2.80.

Even at such a high price, there were far too many inferior products which could not even be sent out to market — a factor that served to contribute a good deal to the pricing of the product. There also remained the additional barrier of a public that lacked the knowledge of the values and conveniences of an aerosol.

IN THE following year Toyo Aerosol Industry Co., of Tokyo, began operations as a loader. However, faced with the terrific cost of fluorinated hydrocarbons, the company turned to various mixtures of petroleum gas — eventually arriving at a formulation of 25% propane, 40% butane, 25% pentane, and 10% hexane.

The Toyo Co. was followed by the Tokyo Aerosol Co., which, with the Nippon Aerosol Industrial Co., laid the actual foundation of the aerosol industry in Japan. (By this time Japan Low Pressure Industry Co. had been liquidated.) It should be remembered that, even at this late date (by U. S. standards), the quality of the products of these three companies was so crude that individual products aren't worth mentioning.

For one thing, a crimping machine for valves was as yet unknown, so that each company welded the valve to the container by its own inventiveness. (Later this problem was solved by an invention of the writer's.) As to containers, there was still no dome-type can — mainly because all of the valves had been designed to fit the concave type, and there were none of the other-type cans manufactured. Probably more than 95% of containers used were of the concave type.

About this time there were a number of developments that considerably "picked up" the Japanese industry. N. Iosaki, manufacturer of "Earth" brand insecticides, purchased an Alpha cold filling machine and a quantity of Aerosol Research K-38 type valves from the U. S. Utilizing these, he commenced production and sale of an aerosol insecticide.

At about this time "Freon" was being produced in Japan under royalty rights from duPont, and the price for propellant dropped to $2.10 for a 50/50 mixture. This drop in price, with the resulting drop in the price of the finished product, caused a prompt increase in the sales of aerosol products. With the rise in sales there came a growing appreciation of the benefits and conveniences of aerosol products, and Japanese industry began to sit up and take notice. Within a year another loading operation was begun in Osaka, utilizing an Alpha automatic pressure filling machine.

To give the reader a better idea of the situation that has developed in Japan in the last few years, it might be advisable first to consider prices.

In the matter of containers, a 12-ounce dome type tin can costs 6½ to 7½¢ and a six-ounce costs 6¼¢. A seamless can costs 8½¢ for 12-ounce, 6 to 7½¢ for the six-ounce, and 6½¢ for the four-ounce (all of which have coated interiors). Prices for coated glass containers differ with the weight of glass used, but an average container with two to 2.5 mm coating costs something in the vicinity of 17¢. Besides these "conventional" types, there are also six-ounce paint containers and aluminum containers for spraying perfume in fixed quantities. More about these later in this report.

As far as valve manufacturing in Japan is concerned, there is actually only one valve manufacturer so far in operation — Mitani Valve Co., Ltd. The large percentage of valves manufactured by this company are of the K-38 type, though there are currently eleven additional types currently being manufactured. Price for one set valve is 4 to 5½¢, and for the glass aerosol valve 5½ to 7¢. As to patents, there are more than 70 different patents either being registered or applied for with the Japanese Patent Office.

ON THE Japanese consumer market, hair lacquer is taking the lead in the cosmetic field. The price of a 12-ounce dome type is about $1.40 per can, a price agreed upon by four large cosmetic manufacturers. According to the materials used, the production cost per unit is somewhere between 50 and 60¢.

Aerosol perfumes in containers that deliver metered amounts of spray are another matter. The usual container is a 10 cc. pressed-aluminum can, with a special valve. Ingredients consist of 3.5 cc. C_2H_5OH, 1.5 cc. perfume, 0.5 cc. diethyl phthalate, and 3.5 grams of Propellant 114 (which will be changed to a 50/50 mixture in the near future). Normally 0.02 cc. is sprayed each time the valve is depressed, although this amount can be adjusted upward. At the rate mentioned, the user can spray 400 to

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genetron 142B/114A MIXES
genetron 113 TRICHLOROTRIFLUOROETHANE
genetron 22 MONOCHLORODIFLUOROMETHANE
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General Chemical has one of the most complete aerosol development laboratories in the country. Without cost or obligation, we will be glad to help you develop the right propellants and formulations for your product and container. Send for free fact-packed technical manual and market data book... "How To Push Up Profits With Aerosols."

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500 times before exhausting the contents. Production cost of this product is about 70 to 78¢, and the perfume packaged is generally determined by the color of the container.

Last year's container consumption can be divided in about these percentages: 60% consisted of conventional tin cans, 20% seamless cans, and the rest glass containers. Glass aerosol containers, when they first appeared in July, 1954, were uncoated and therefore very dangerous. During that period propellant was being produced only experimentally (at a price of about $3 per kilo) and a 50/50 mixture was used to lower production costs.

Nowadays three separate manufacturers, specializing in glass containers, are turning out fine coated bottles. To meet the fancy of Japanese women, bottles are being designed in a number of shapes and sizes (though the capacity is being kept below 100 cc.). It should be made clear that there are no regulations in our country resembling the ICC regulations in the United States, though our government is believed to be contemplating similar controls.

DUE to an awakening on the part of manufacturers, improved packaging techniques, and advertising programs, such a product as hair lacquer can be seen in stores on practically every street corner of Japan. 85/15 propellant mixtures (85% #12 and 15% #11) now cost $1.50 per kilo, with 50/50 mixtures at $2.10.

Although Japan's industry is showing fast improvement and rapid development, the importation of filling machinery from the U.S. has greatly stepped up production techniques. For instance, Tokyo Aerosol Co., Ltd., (formerly Tokyo Spray Research Co.) recently purchased an installation of pressure filling machinery from Alpha which has considerably increased the company's production and product quality.

There are currently more than 30 different products on the market, including burn remedy, insecticide, insect paint, fire extinguisher, wax, shampoo, deodorant, shaving cream, snow, hair oil, water repellent, hand cream, plastic bandages, etc. Despite this apparent progress it is my opinion that only about one in a thousand among the people here understands the aerosol product and its convenience. Although most women are aware of hair spray lacquers at beauty parlors, only a few know what they are for or that they differ from conventional products.

Judging by this situation, one can see that it will probably take quite a while before aerosols will gain major distribution in the Japanese market. Though it may be 10 years before aerosols filter down to every phase of consumer marketing, spiraling sales figures over the next few years should be well worth watching.

WHAT Japan needs most of all is literature and bulletins for further research and study of the whole aerosol field, as well as experienced men to take the lead in this country. The recent visit of J. B. Moore, vice-president of McLaughlin, Gormley King Co., Minneapolis, to the King Trading Co. is a good example of what can be done here. Visiting cities like Osaka, Tokyo, Kobe, and others, Dr. Moore gave lectures on the aerosol industry that had the effect of greatly stimulating production and marketing.

A major detriment in Japan is the tendency of every company to keep everything about aerosols confidential. This serves to create a situation in which there is practically no opportunity to exchange ideas or discuss problems from one company to another. This greatly impedes the progress of the industry.

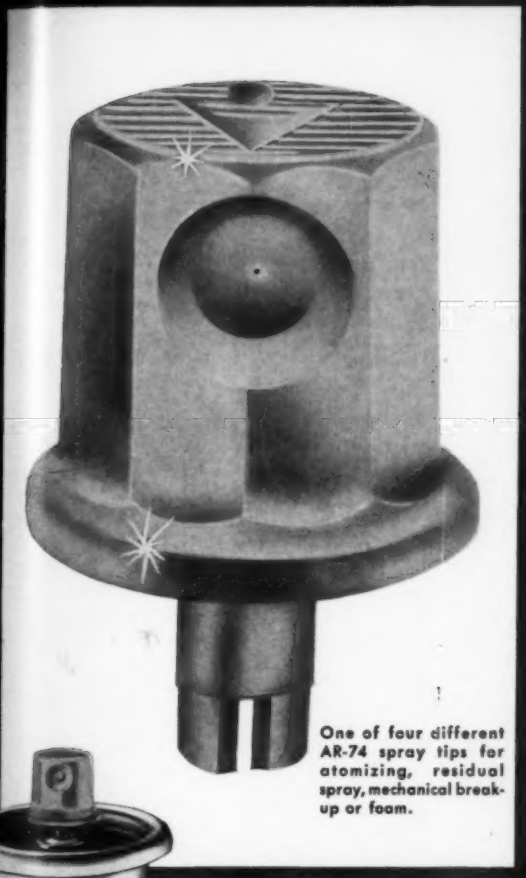
In order to overcome these difficulties, manufacturers finally joined together on Oct. 18, 1954 to form the "Japan Aerosol Industrial Association." So far, 24 manufacturers have joined this organization, and in their meetings every two months they ex-

(*Continued on Page* 53)

Typical coated glass and metal containers available in Japan today. The photographs on the top of each page illustrate some of the versatility of package design and product type. The containers with English labels are sold either to U. S. installations in Japan, Korea, and Okinawa, or to Hong-Kong and other English-speaking cities in the Far East.

THE ALL NEW AR-74 AEROSOL VALVE

solves many problems that have existed to this very moment!



One of four different AR-74 spray tips for atomizing, residual spray, mechanical break-up or foam.

FITS ALL STANDARD GLASS CONTAINERS

... AND ALL METAL CONTAINERS OF 1-INCH DIAMETER

INTERNAL METERING ELIMINATED!

All Metering in Removable Nylon Spray Tip

Aerosol Research Company . . . the originator of the first fast pressure-fill aerosol valves . . . now introduces the AR-74 . . . a new, improved type of aerosol valve for COLD *and* PRESSURE filling. Backed by years of development, the advancements built into the AR-74 satisfy needs that have existed since pressurized packaging began. Listed are a few of the many features that can improve your operation:

- **VARIETY OF SPRAY TIPS**—Available in various meterings for true and residual aerosols and foam products.
- **NEW MIST-MIZER TIP**—Available for ultra low-pressure and water-base spray formulations.
- **ALL NYLON SPRAY TIP**—Stays on, will not loosen from chemical reactions.
- **NO INTERNAL METERING**—Containers are virtually clog-proof!
- **EACH VALVE AUTOMATICALLY TESTED** by Automation to eliminate human factor.

FOR PRESSURE FILLING

the AR-74 gives you these extra advantages:

- **WORLD'S FASTEST FILLING**—There is no internal metering in lower assembly so valve is literally "wide-open"!
- **LOWER INVENTORY**—Stock only one type of lower assembly for all products, and select the tip with the proper metering for each formulation.
- **ALL NYLON TIPS** can be put on cold, by machine or hand, with no heat or lubricants needed.

† Patent applie

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RUST
SOLVENT
AND PENETRANT
Tint
'n Set
COLOR SPRAY AND HAIRSET
GOLD
JIFFY ZERO

New Products and Packages

- **RUST SOLVENT** and Penetrant, a new product to penetrate rust and loosen rust-frozen nuts, bolts, and fittings, has just been introduced by Plasti-Kote, Inc., Cleveland. Packaged in a 16-ounce can and retailing at $1.89, the product is fast drying, non-flammable, non-explosive, non-oily, and non-conductive.

- **The Jiffo-Jet Handle** is a new development of the Dickman Co., Philadelphia, to "make every aerosol spray can a veritable spray gun." The unit can be used with any of the vast variety of aerosol products, and keeps the user's fingers and hands from ever touching the liquid. It also provides leverage on pressure release without undue strain on the fingers. Retailing at $1, it fits any spray can.

- **SOF-SET CURL CONTROL** is a new hair spray product recently introduced by Max Factor, Hollywood, Calif., with considerable advertising fanfare. Containing "protein-polymist" and coming in different packages for fine and medium hair, it retails at $1.50 plus tax for a six-ounce container.

- **JIFFY ZERO,** a product of Arco Electronics, Inc., Los Angeles, is an aid to "locating defective circuit components of an intermittent or thermal reactive nature caused by temperature changes"—in layman's terms, it may be used as a trouble shooter in locating "hot" and improperly working resistors, transistors, etc. Its chief component is a refrigerant gas which cools the components on which it is sprayed. Packaged by Western Filling, Los Angeles, it will retail at about $2.75 per six-ounce container.

- **Tint 'n Set,** a color set and color spray in eleven shades, is a new product of Tint 'n Set, Inc., Newark, N. J. and will retail at $2. Though not a permanent dye, bleach or rinse, its color is said to remain true from shampoo to shampoo. The product is currently the subject of a national advertising campaign.

- **LINEN AND LACE SACHET MIST** is a new aerosol sachet spray now being manufactured and distributed nationally by John H. Breck, Inc., Springfield, Mass. It is designed for use in spraying linens, lingerie, and as a room freshener. The six-ounce container has a suggested retail price of $1.50.

A Panel Discussion on Insecticides

REPLIES TO QUESTIONS ON PERFORMANCE CLAIMS, SLACK FILL, TOXICITY TESTS, AT LAST CSMA CONVENTION REFLECT POLICY OF GOVERNMENTAL AGENCIES TOWARD PRESSURIZED INSECTICIDES

AT the December meeting of the Chemical Specialties Manufacturers Association, the Insecticide Division presented a panel discussion offering "Answers to Labeling, Regulatory, and Toxicological Problems with Insecticides". The panel of experts, moderated by Dr. E. J. Campau, Standard Oil Co. (Indiana), included: Dr. W. G. Reed, head of the Pesticide Regulation Section, ARS, USDA; S. C. Billings, assistant to the chief, Pesticide Regulation Service, USDA; C. H. Jefferson, head of production services, Plant Products Division, Canadian Dept. of Agriculture; and F. J. McFarland, Bureau of Biological and Physical Sciences, FDA.

The discussion, released in full text by the CSMA last month, contains a number of authoritative answers to questions raised regarding insecticidal aerosols:

Dr. Campau: Which Federal agencies determine the accuracy of label statements concerning contents of listed ingredients of formulas and quanties of product (weight or volume) in individual packages?

Dr. Reed: The Pesticide Regulation Section has responsibility for determining the accuracy of label statements of products of the types cited. This responsibility stems from the Federal Insecticide, Fungicide, and Rodenticide Act, under the provisions of which an essential component of the labeling of a pesticide chemical is a statement of the net weight or measure of content. The law also provides that the term "misbranded" shall apply to any pesticide if its labeling bears any statement, design, or graphic representation relative thereto or to its ingredients which is false or misleading in any particular. It provides that a product is misbranded if the label does not bear an ingredient statement. It further provides that the term "adulterated" shall apply to any economic poison if its strength or purity falls below the professed standard or quality as expressed on its labeling or under which it is sold, or if any substance has been substituted wholly or in part for the article, or if any valuable constituent of the article has been wholly or in part abstracted. To administer these provisions of the law, the Section, as a part of its enforcement program, collects samples of interstate shipments of pesticides, which are analyzed chemically to determine if the ingredients listed on the label are present and in the percentage relationships as expressed. The product is also analyzed to determine if the net weight or measure of content is accurately shown.

Mr. Jefferson: The Standard Branch, Department of Trade and Commerce act as official analysts with respect to net contents statements (weight or volume). The Plant Products Division is responsible for determining and enforcing the accuracy of label statements concerning the contents of listed ingredients, as well as the biological activity of the formulation in relation to claims, directions for use and minimum standards.

Weight Content Statement

Dr. Campau: Can a ruling be passed to prohibit the use of any but a weight content statement for aerosol and pressurized packages?

Mr. Billings: The Act requires that labeling for each product shall include a statement of net weight or measure of the contents. This statement shall be given in terms of weight or measure in general use by consumers and users of economic poisons to give accurate information as to the quantity of the economic poison which is present in the container. In the case of pressurized products, we are of the opinion that this requirement can best be fulfilled by a declaration in terms of pounds or of avoirdupois ounces, if the net weight of the dispenser is less than 1 pound. We have no authority to object to the inclusion of additional information on the labeling of pesticides unless this information can be successfully attacked as being false or misleading in some particular. If the label of a pesticide includes an accurate declaration in terms of avoirdupois units as specified above, we would have no authority to protest any additional declaration of contents which is factual.

Mr. Jefferson: The P.C.P. Act would appear to provide authority for such a ruling. However, this would probably be unnecessary as the Regulations already state that the net contents of containers of pressure packed pesticides shall be stated in terms of weight avoirdupois.

Performance Claims

Dr. Campau: The Pesticide Regulation Section has the job of seeing that label claims are justified. In many cases, however, they use some *degree* of control as a criterion, e.g., equal to OTI or OTA; per cent kill under certain conditions. Would it be possible to clarify the situation by issuing interpretations covering such criteria just as Interpretation No. 18 was issued on precautionary labeling?

Mr. Billings: The degree of pesticidal effectiveness which a pesticidal formulation should possess is directly related to the performance claims appearing on the labeling and should reasonably reflect the expectations which are created in the minds of the user. These matters are explained in general in Interpretation No. 7 entitled "Interpretation of Requirements with Respect to Directions for Use." Applicants for registration are rarely, if ever, interested in label claims and directions which do not reflect an economical degree of pesticidal utility. Trivial or inconse-

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quential label claims for pesticidal value are to be discouraged. However, if a secondary usage of a pesticide can be demonstrated as having a reasonable degree of pesticidal utility in conformity with label claims, such usage can be accepted and recorded in our files. The existence of "some degree of control" is not sufficient to justify acceptance if a greater degree is claimed on the labeling. Questions of safety and possible contamination of food and feed are, of course, a part of our consideration. The evaluation of new formulations of unknown potentiality ordinarily involves test evidence. This evidence should be obtained under professional supervision and should substantiate closely or duplicate the proposed label claim. Replications to assure representative results are, of course, necessary. Laboratory evidence is usually desirable as a background, although it should always be well supplemented by practical tests. The OTA and the OTI have been used as valuable tools in the evaluation of aerosol products against houseflies and liquid insecticides against houseflies and roaches. The official methods of this Association are used for evaluating aerosol dispensers against houseflies, liquid roach sprays and liquid fly sprays. Without specifying the details of testing, it is understood that these methods reflect minimum insecticidal values which are needed for the registration of these classes of products. We do not contemplate further interpretation with respect to household insecticides at the present time. There are a number of problems pending with respect to the evaluation of pressurized insecticide dispensers. When these problems have been resolved and we have gained more practical experience with this general class of products, we will give further consideration to the publication of a suitable interpretative statement.

Mr. Jefferson: Minimum standards can be established under the Pest Control Products Act. They have been avoided and only instituted where a real need for them and practical enforcement techniques exist. Under consideration at the moment are standards of performance, based on biological tests for the following insecticides and space sprays.

(a) Non-pressurized space sprays for fly control.
(b) Pressurized space sprays for fly control.
(c) Direct contact roach sprays.
(d) Moth proofers.
(e) Mothproofed materials.
(f) Residual insecticides.

Slack Fill

From the Floor: I believe the previous question was concerned with checking the weights in the containers.

Is there also a regulation of some type which covers what we might call a slack fill in the container? Suppose the container is big enough to hold 2 pounds of an item but we put only 1 pound in to create the illusion of more quantity than is there. There is a regulation covering something of that nature, is there not?

Dr. Reed: The Federal Insecticide, Fungicide, and Rodenticide Act does not include any provision which would allow us to regard "slack fill" as a violation of the provisions of this Law. It should be noted, however, that the label should include a prominent statement of net contents in conformity with paragraph 362(d)2 of the regulations.

Claims for Roaches

From the Floor: After all our arguments in committees, and so forth, I wonder if at this time, Sam, you would bring us up to date with the various changes? What happens, if anybody is even interested in doing it any more, if somebody wants to register a new aerosol and makes a claim for roaches? Just what sort of data and what claims and what information does he have to submit with it and what happens in the Bureau if that information isn't quite all you think it should be? Do you have facilities to check it further? Or do you check it in the Bureau before regis-

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C Standard button operation type. Selected caps in metal or plastic. All colors, styles. Over 750 sprays out of 2 oz. bottle. Economical.

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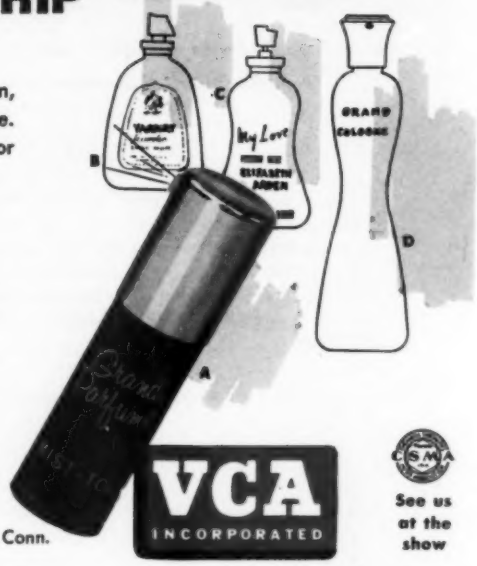

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tration is made? Particularly on that roach claim.

Mr. Billings: The principles we have operated under in administering the Federal Insecticide, Fungicide, and Rodenticide Act have not changed since they were formulated following the passage of the Law. New insecticides, whether in aerosol formulations or otherwise, should be justified on the basis of clear experimental evidence as to their insecticidal value and safety for the purposes intended. In general, we believe that it is the responsibility of the applicant for registration to demonstrate that his proposed claims are justified and conform to the requirements of the Act. Claims for particular pests, such as roaches, will not be accepted unless we are reasonably satisfied that they are valid. While we have limited testing facilities available for evaluating certain types of insecticides, including those for roaches, we cannot undertake to test formulations prior to registration. Most of our testing of insecticides is based on samples of commercial products purchased in normal trade channels by our investigators. Only rarely has it been necessary for us to revoke or modify an acceptance of pesticide usage on the basis of subsequent evaluations in our testing facilities.

Claims in Canada

From the Floor: We have discussed aerosols in the United States. I was wondering what is done in Canada for claims filed and in fact, all insect claims, that is household aerosols?

Mr. Jefferson: Claims made for household aerosols are reviewed in the light of available information. For flying insect claims, Peet-Grady results form the basis of acceptance. If the formulation is thought to introduce no unusual factor, direct comparisons are made with other formulations having known performance. If a formulation is unusual, then Peet-Grady results on that formulation are required. Claims for crawling insect control are considered in the light of general information on the effectiveness of the active ingredients present against the various insects named in the labeling.

The OTA in Canada

From the Floor: I was wondering, Mr. Jefferson, whether you use the OTA in Canada, and if so, how it is used?

Mr. Jefferson: So far the OTA is being used as a minimum standard with respect to performance in considering the registration of aerosols or other pressurized sprays intended for use in the control of flying insects, using space treatment. We hope to use the OTA as the standard in the routine testing of proprietary products sold in Canada.

We have used the same criteria for making comparisons as have been specified in the CSMA procedure; however, with respect to knockdown, we have considered only the 10-minute readings.

From the Floor: In conjunction with that, what do you test your pressurized space sprays against, or consider the test against an OTA?

Mr. Jefferson: We have compared the pressurized space sprays with the OTA because, as stated previously, we consider the OTA as setting the minimum acceptable standard of performance for all pressurized insecticides intended to be used indoors for the control of flying insects by space application.

Mr. McLeod (Canada Department of Agriculture): I think some of the men in the audience realize that the bio-assay of insecticides in Canada is a reasonably new thing. We have started our laboratory. We have certain techniques in operation, But naturally, in a new laboratory we do not have all the staff we need. We are not really into the testing of aerosols yet.

We have our equipment ready, we have on hand the stocks of OTA bombs and we

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C Finger tip control operates the molded plastic tube for a metered spray. When not in use, cap and tube become one, for positive closure.

D Here's one for the nasal. Clever cap arrangement has multiple advantages for a variety of uses.

E Here, too, plastic is a means-to-an-end, when coupled with a VCA metered valve. Simple operation.

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will run the tests as soon as a staff is available.

Actually the only testing we have done on pressurized space sprays was done in the Peet-Grady chamber before our aerosol chamber was erected, and at that time we tested against both the OTA and the OTI.

Having done our tests, we submitted our results to Mr. Overholt and Mr. Jefferson and let them make their own interpretation whether against the OTA, as was done, or against the OTI if they wished.

Skin Irritation Studies

Dr. Campau: The Pesticide Regulation Section apparently would like to have skin irritation studies run on various finished formulations employing several toxicants in an aerosol or pressurized spray. Admittedly, toxicity data of all types are valuable in determining the safety of a formulation to the consumer. However, there are practical limitations, one important one being that in the use of an aerosol or pressurized spray the consumer is very unlikely to get any appreciable quantity of the material on the skin. Secondly, the toxicity information is available on the ingredients making up the formulation. Unless some of these ingredients are extremely irritating and are used in relatively high concentrations, we believe the use in an aerosol formulation should not constitute any special hazard. Would not a simple caution to avoid excessive skin contact suffice to protect the consumer?

Dr. Ward: In addition to the usual data on systemic toxity by oral intake, skin absorption, and inhalation, this Section requires submission of patch test data on human skin irritation and/or sensitization before accepting for registration pressurized formulations whenever a new ingredient or combination of ingredients is proposed, or whenever an applicant proposes a higher concentration than is customarily accepted. If the new formulation is intended for space spray or aerosol use, we may also require data showing human reaction, including skin irritations, to exposure to the formulation under actual use conditions. We feel that some degree of skin contact is unavoidable in the use of these formulations, and therefore, we must know the degree of hazard involved before we can evaluate the adequacy of precautionary labeling, or suitability of such products for general distribution and use. The toxicity data usually available on the ingredients of pressurized and aerosol formulations are not necessarily adequate to serve as a basis for assuring us that the formulation will not be unduly irritating, will not produce sensitization and subsequent responses of an allergic nature, and will not be much more toxic and/or irritant when present in the atmosphere in gaseous form or as very small particles which can penetrate further into the lungs than most sprays and dusts. The U. S. Public Health Service has a fundamental interest in pesticides from the standpoint of industrial exposure and as they may be useful in control of vectors of human disease, we customarily seek the advice of the Communicable Disease Center of that Service when new pesticides are proposed for household use. Since use of an aerosol as a household product involves exposure by inhalation and skin contact which is unavoidable when the product is used in the customary manner, we may not be able to accept use of an aerosol of a material which might be acceptable for use as a wetting spray with simple cautions.

Minimum Concentrations

Dr. Campau: What does the Pesticide Regulation Section consider as the minimum concentration of the more common ingredients in low propellant space spray bombs?

Mr. Billings: Pressurized space sprays usually containing a low amount of propellant are a relatively new class of products on the market. These pressurized sprays are roughly comparable to liquid sprays and are not to be confused with the

(*Continued on* 46B)

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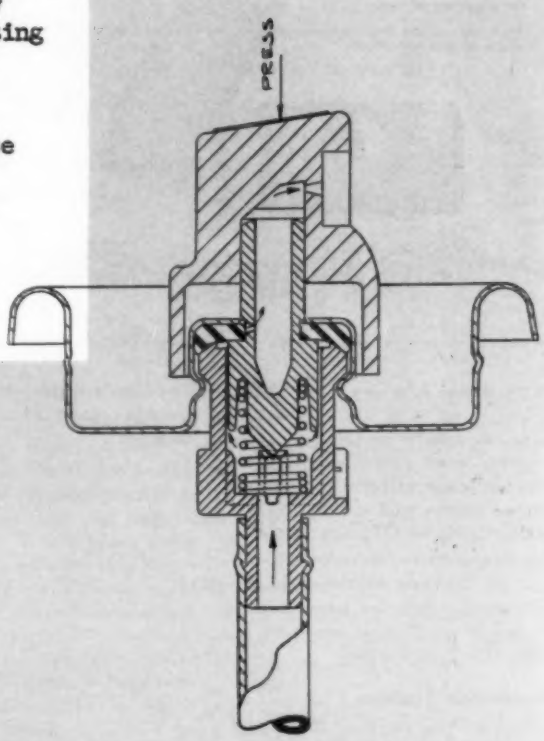

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Pressure Packaging Overseas

German producers drop prices on aerosol valves and containers. Our European correspondent, Dr. Tom C. Clark, views lowered costs as a healthy sign, for increased sales will eventually follow.

IN THE Spring, both sides of the Atlantic look pretty much the same. In both the U.S. and in Europe there is a rash of new aerosol developments, though there are still a few noticeable contrasts in the general "feeling in the air" between the two continents.

The atmosphere in the U.S. aerosol industry is youthful, full of excitement, energy, with a zestful "get-up-and-go" outlook toward the whole problem and future of aerosols. In Europe there is less enthusiasm (perhaps a little less "open" optimism) and somewhat more reticence on the part of persons contemplating the industry's future.

Although it is already tremendous in size, we saw no evidence that the U.S. aerosol development is slowing down, or has reached any kind of leveling-off plateau. We found U.S. contract loading to be highly competitive, with some quotations down to two cents per can for water-based products and four cents per can for insecticides and room deodorants. However, no one seems discouraged about profit margins, although the realization seems to be growing among the companies that are the biggest and healthiest now (and probably will be the principal industry factors ten years from now), that the appeal of the aerosol to the consumer is one of efficiency and convenience, and that price in itself is not nearly as important a factor as some seem to think in influencing sales.

We understand that U.S. valve prices may shortly take another move downward. In the long run we feel that price reductions based on lowered production costs — so long as they are not merely price cuts for the sake of competition — are healthy signs. It is normal in any growing industry, as manufacturing techniques become more efficient, for costs to go down. Thus, these price reductions seem to point to an all-'round healthy condition in the U.S. industry.

It may be the shortage of investment capital which keeps the European expansion hampered, or the still-too-high end prices for these consumer products, or the lack of market stimulation and product promotion (or all of these factors plus a natural European conservatism), but whatever the cause, European aerosol development is still in low gear.

From some reports the principal obstacle is the existence of "oldsters" in the big companies which went into aerosol loading as an incidental novelty and mostly for competitive prestige purposes — rather than for money making alone. Generally speaking, these big, old, and well established European houses (with chemical, cosmetic and household goods product lines) run their aerosol businesses as side-lines. Some of them seem to regard them as a necessary nuisance and some even ignore them completely.

In these companies it is the young men who are restless to push ahead — who want to expand with increased production facilities and new products. Their ideas seem inspired by American-type imagination. But to realize their goals, capital, organization, sales promotion plans, etc., are required, all necessitating approval from budget and other committees headed by and loaded with entrenched "oldsters." Discouraging? Yes, but not fatal. It was the young people who made the industry in the U.S. and it is the young ones who will do it in Europe. In the words of the U.S. expression, the "impossible may take a little longer"!

New German Price Reductions

Stimulating the European aerosol industry are some newly-announced price reductions on valves and containers. In Germany, the valve price is now down to 24 pfennig (5.7 cents U.S.) for standard makes, a cut of about 12½% from former prices. For the time being this seems about right and already considerably lower than were U.S. valve prices when U.S. volume was much higher than present European levels. In these complicated little valves are high tooling costs which, when finally amortized,

(Continued on Page 46A)

AEROSOLS ...in Review

Dangers of Unprotected Glass Aerosols

"NO uncoated aerosol bottle containing sufficient pressure to produce an acceptable spray has failed (in drop tests) to give a loud explosion and a dangerous spread of glass fragments," declares Jack Pickthall, chief chemist, Polak & Schwarz (England) Ltd., in an article on "Unprotected Glass Aerosols" in the February issue of *Soap, Perfumery & Cosmetics*. The article, which constitutes the first clear-cut criticism of uncoated glass aerosol containers, was written on the basis of a number of documented photographic tests.

"Glass aerosol bottles with gauge pressures in the region of 13 p.s.i. have been shown to break practically every time when dropped from a height of six feet six inches. On breaking, these bottles scatter their pieces in a dangerous manner. Naturally, a bottle could be designed to produce a greater resistance to breakage, but that is by no means tantamount to removing the ultimate and inherent explosive risk."

Mr. Pickthall's article attacks the supposition that low pressure glass aerosol bottles (with pressures as low as 15 p.s.i.g.), when they do break, project broken pieces for only a few feet, and that these pieces tend to follow a horizontal line of flight and remain near floor level. "These conclusions are not confirmed by many other experimenters," he declares.

The English chemist dubs the suggestion that uncoated glass aerosols can be regarded as safe articles for sale to the general public as "a legend" and points out that the often-stated comparison that an aerosol bottle (with a pressure of 15 p.s.i.g.) is safer than a beverage bottle with a pressure of 60 p.s.i.g. is "irrelevant and misleading both in theory and in practice."

"In an aerosol bottle the liquefied propellant is capable of considerable increase in volume when the pressure is released, and the follow-up of expanding gas is sufficient to cause glass pieces to be propelled for considerable distances.

"Despite the fact that pressure in a beverage bottle may reach as much as 60 p.s.i.g., this pressure will develop only on agitation. The carbon dioxide in solution is present in only a small concentration and, on breaking the bottle, the molecules at the surface (liquid/glass or gas/glass) are not reinforced quickly enough to provide any great explosive power. In hundreds of experiments it has been found that carbonated beverage bottles break readily when dropped on to hard surfaces, but that the fragments are not propelled in a dangerous manner. We are, of course, talking of beverage bottles which fulfill the normal requirements for that type of commodity. Mistakes in filling might well take a product outside the scope of this article."

Mr. Pickthall declares that the dropping of a bottle of mineral water (with 60 pounds pressure) differed little from the effect of dropping a bottle of plain water. Most of the glass fragments remained in the vicinity of the dropping point. In an uncoated glass aerosol, however, the same area is "practically devoid of glass".

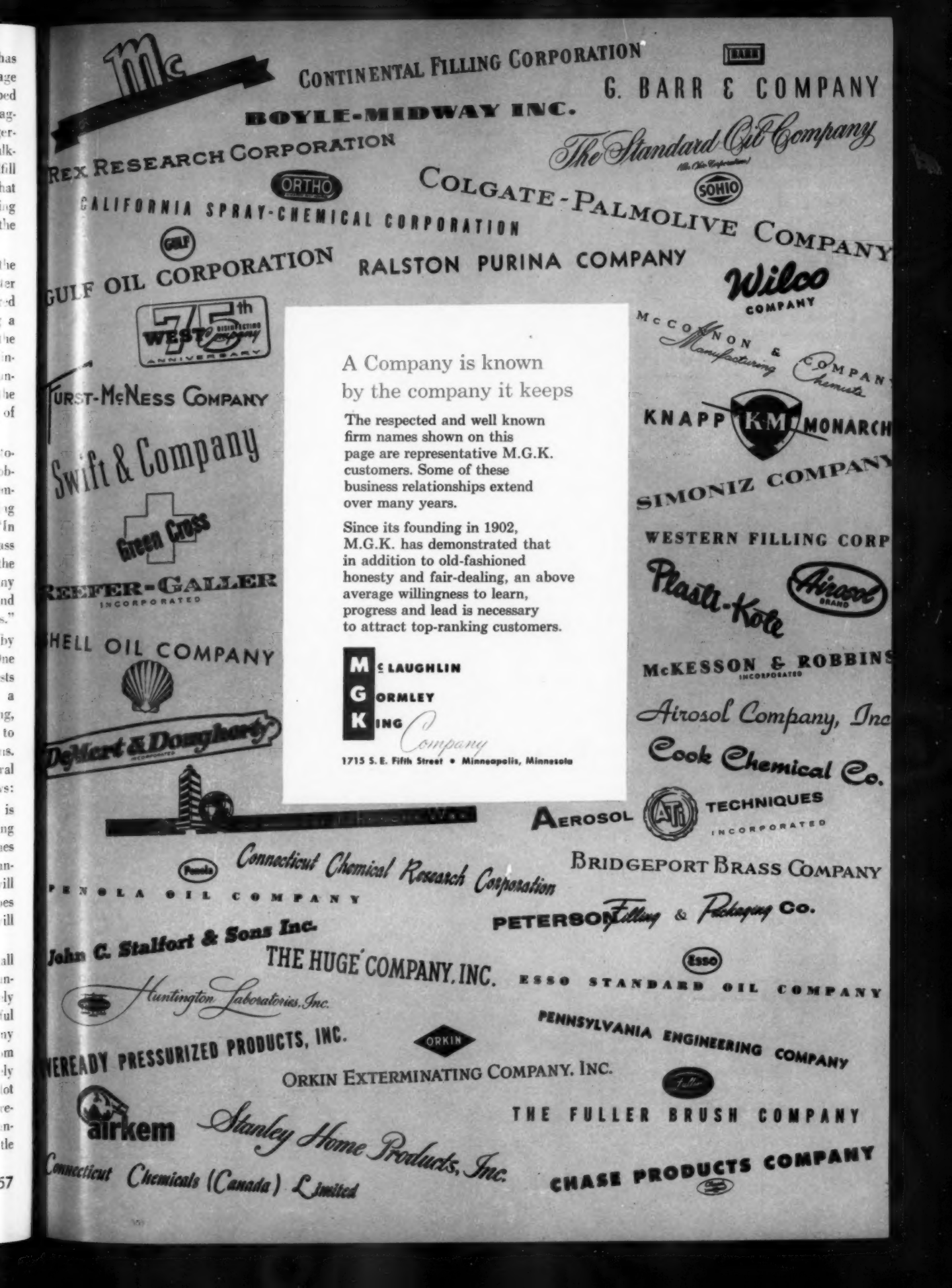
He points out that, in the photographs accompany the article, the observer is able to identify caps, stem-pipes, and pieces of glass flying through the air. He continues: "In point of fact, jagged pieces of glass were found in different parts of the room, despite screening, and in many cases, they hit the wall high up and dropped on to quite high benches."

Tests showed that plastic bottles, by contrast, are comparatively safe. One of the photographs taken in the tests made my Mr. Pickthall shows a plastic-coated aerosol, on breaking, swelling up to allow the contents to escape gently through perforations. Mr. Pickthall summarized his general conclusions on the subject as follows:

"If the existing type of bottle is adequately covered with a tight-fitting plastic coating (0.025-0.03 inches thick) and possesses a securely anchored valve, then the bottle will break less readily, and, if it does break, no separate pieces of glass will penetrate the cover."

In his introduction, Mr. Pickthall cautions: "The fact that these uncoated bottles have so far been widely sold, without any reported harmful effect does not really impress, any more than does the suggestion from one writer that the cost of adequately protecting a glass aerosol 'buys a lot of insurance'. Results have been reported which suggest that an uncoated low-pressure aerosol bottle

In this column aerosol subjects appearing in other periodicals (both domestic and foreign) will be reviewed and their findings summarized. It is felt that this service will enable the reader to keep abreast of most of the important contemporary articles on the industry, even though they may appear in other periodicals. Since there is a chance that some pertinent articles may be overlooked, it will be helpful if readers will call our attention to any they judge important enough to review in this column. *The Editor.*



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does not throw its broken pieces very far, and that the pieces are propelled mainly in a horizontal plane and at a height usually below 18 inches: suffice it to say that this is definitely not my experience, or indeed the experience of many friends in the industry. Our main concern is the false sense of security given to people who read about these tests. . . .

"In England certain bottle, can, and valve makers, and contract filling concerns are refusing to have anything to do with the customer who intends marketing an aerosol in a glass bottle which does not possess an adequate coating.

"I repeat that the comparison made between aerosol bottles with 15 p.s.i.g. and beverage bottles with up to 60 p.s.i.g. is the seat of the trouble."

"THERE are two ways to compete in the aerosol field—in price and in quality—and price shaving is suicide," George Barr, president of G. Barr & Co., Chicago, is quoted as saying in a staff article on the company in *Chemical Week* for April 6. Entitled "More than Mere Fillers," the article quotes Mr. Barr's views on a number of important aerosol questions.

"Barr figures the future belongs to fillers prepared to offer a variety of services, technical and otherwise. The 'mechanics', Barr thinks, will be forced to quit, leaving fewer but bigger firms in the business. Many fillers, says Barr, got into the act at first because they were good engineers and could design and operate a filling line."

As to the price cutting-quality question, the company is described as "depending in large measure on two main areas of concentration: quality control and research."

"Quality control isn't stressed only to impress customers. It's also the company's own insurance against mistakes. Nonsalable losses can be hefty when you fill a million units worth $250,000 each week. By checking cans (dents, etc.) and valves before putting them into the line, the company avoids later rejects, cuts down its own losses."

On the custom fill-private label argument, the article says: "Barr doubts that many other fillers will gamble on multi-plant operations. And as to customers' getting into filling, he feels that is even less likely. The rationale: the big filler can generally make products more cheaply because he can keep his lines running all the time by switching products—as customers are not always able to. Also, there's more money in merchandising than there is in manufacturing, so most customers prefer to spend a quarter million dollars on promotion, rather than for a new plant.'

The *Chemical Week* report declares that G. Barr foresees one of its brighest future product types to be pharmaceuticals, for which it expects to draw heavily on its quality control, research, and chemical knowledge. As products in the near future, topical antiseptics and anesthetics, inhalants (vasoconstrictors), antibiotics, aerosol dye (foamy) shampoos, metallic hair tints, and griddle treatments (release agents) for home use are all seen as highly promising.

THE monthly publication of Schimmel & Co., Inc., New York, for March is devoted to a discussion of "Hair Dyes Related to Melanin". The article is based on the argument that "Coloring the hair by means of a single dyestuff of the oxidation type results in a highly artificial effect," and that "The natural color of blond and brunette shades of hair is due mainly to a brownish pigment called melanin."

According to the publication, "It is possible to produce melanin artificially by the enzymatic oxidation of tyrosine, an amino acid which contains a phenol group. The enzyme which catalyzes the oxidation is called tyrosinase, which is present in many plants and may be extracted easily from potatoes or mushrooms. The brown discoloration of freshly-cut potatoes, when exposed to the air, is caused by the formation of melanin."

The article then goes into a technical discussion of the techniques of producing the various melanin enzymes, which are used in a number of aerosol hair coloring formulations.

A PHOTOGRAPHIC technique, by which it is possible to show the explosive violence of a breaking aerosol bottle, is described in "Aeroscripts," first of a continuing series in *American Perfumer and Aromatics* by Jack Pickthall, of Polak & Schwarz (England) Ltd. The article, appearing in the March issue of *Perfumer* describes how the method was used to photograph both bursting aerosols and the less violent action of breaking carbonated beverage bottles.

A wooden platform nine by ten inches, attached to an arm which in turn was attached to a micro switch on which the platform could rest, was the main part of the apparatus. The camera equipment was a small electronic flash outfit and a fully synchronized 35 mm. single-lens reflex camera. The actual technique employed was "open flash," "i.e., the camera was opened in a darkened room and the flash opened in a darkened room, then the flash operated and the camera closed."

"The set-up was as follows. The bottles were dropped from a cradle, six feet six inches above the platform. The bottles were tipped from the cradle by pulling a string away from the danger area . . .

"The camera was located three feet from the platform for close-ups, and six feet to cover a greater area of spread. It was placed behind a one-half inch glass plate three feet high and six feet wide. The flash was also shielded from flying glass by means of a clock glass. The sequence of operation proceeded as follows: Place bottle on dropping cradle—charge the

(*Continued on Page* 61)

Reprints of the complete text and photographs of Mr. Pickthall's article in *Soap, Perfumery & Cosmetics* are available on request from Wheaton Plastics Co., Mays Landing, N. J.

NEWS of Pressure Packaging

Esko to Package Aerosols

Esko Chemical Co., 352 Livonia Avenue, Brooklyn, equipment manufacturer and formulator, will enter the aerosol contract packaging field in June of this year, according to an announcement by Sy Kirschenbaum, president. Mr. Kirschenbaum, who has developed several formulations which will be made available to the firm's clients, declared that Esko will devote its activities exclusively to custom filling and will market no products of its own.

The company will put two pressure-fill lines into operation in June. Most of the equipment was specially fabricated by Esko chemists and engineers for automatic operation. Ample storage space is available in two three-story buildings on the premises.

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Western Filling To Expand

Western Filling Corp., Los Angeles, Calif., will move to new and larger quarters sometime in May, and will increase its production to 100,000 units per shift, according to an announcement by John L. Marana, Western Filling president.

"Western Filling produced its first aerosol unit on Feb. 12, 1954, and after three years of steadily increasing volume is forced to move to new quarters," Mr. Marana said. The new plant, of concrete construction, is located at 6423 Bandini Blvd., in a new industrial district 20 minutes drive from downtown Los Angeles. It will be 40,000 square feet, and is expected to be completed about May 15.

The company's present four filling lines will be supplemented by a new stainless steel unit which will increase production to approximately 100,000 units per shift. The new line will be used for hair sprays and other cosmetic items only. The new plant will also include a completely equipped laboratory, under the direction of Clarence (Pete) Clapp.

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To Head AR Eastern Sales

To head its newly-opened New York office, Aerosol Research Co., Forest Park, Ill., recently announced the appointment of Jack Schlossman as Eastern sales manager. He was previously with the Pesticide Advisory Service, in New York, and prior to that directed the sales-service unit of the Contract Packaging Division of Connecticut Chemical Research Corp. Until 1954 Mr. Schlossman served with the Naval Purchasing Office as purchasing agent in charge of procurement of insecticidal aerosols for the armed forces.

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Jet Bon Ami To Canada

The Bon Ami Co., New York, late last month launched an advertising campaign in Canada for "Jet-Spray Bon Ami." Newspapers and the radio are being used to impelement the campaign.

Distribution of the aerosol product has been completed in Ontario and is well under way in Quebec, Alberta, and British Columbia. In the course of the introductory campaign, it was announced, Bon Ami will use newspapers and radio advertisements in such cities as Toronto, Hamilton, Ottawa, and London, Ontario; Quebec City and Montreal, Quebec; Calgary and Edmonton, Alberta; and in Vancouver, British Columbia. The account in Canada is being handled by Cockfield Brown & Co., Montreal.

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Spray Mist Appoints Two

Spray Mist Inc., Brooklyn, N. Y., has announced the appointment of James Colletti and George Austin to the sales staff as part of the company's expansion program. Both men were formerly on the sales staff of the Schlitz Brewing Co.

Dworkin Joins Glenn Chemical

Z. Z. Dworkin has been named manager of sales of the newly-organized Glenn Chemical Co., 2735 North Ashland Ave., Chicago, manufacturers of the new chemical insect repellent "Tabutrex." A former botany teacher at the University of Connecticut, Mr. Dworkin has most recently been area sales supervisor for the Fairfield Chemical Division, Food Machinery and Chemical Corp., New York.

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To Introduce New Aerosols

The Rexall Drug Co., Los Angeles, this year will introduce a number of new aerosol products, including a rubbing alcohol formulation, it was reported recently by Justin Dart, company president. The announcement, made in the annual report to stockholders, also reported on Rexall's new "Stag" line of aerosol men's toiletries, introduced nationally in March.

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Can Prices to Rise Again

American Can Co., New York, announced last month that it will raise its can prices effective May 1. The announcement was made by William C. Stolk, Canco president, before a meeting of the Cleveland Society of Security Analysts.

The increase stems from a 4½% increase in tin plate prices announced recently by major steel producers, an increase protested strongly by the Can Manufacturers Institute. The institute charged that the high prices would "bring still another inflationary pressure to bear on the container industry," and that price increases have been such that container producers can't possibly absorb them in overall operating costs. Can prices rose twice in 1956, following similar rises in tin plate prices.

Pennsalt to Change Name

Pennsylvania Salt Manufacturing Co., Philadelphia, announced recently that shareholders at the annual meeting will vote on a proposed change in the company's name to Pennsalt Chemicals Corp. The meeting was scheduled for April 24.

The company's annual report pointed out that the firm is "in no sense a salt manufacturing company," but rather a chemical company. Salt continues to be one of the firm's important raw materials, the report explains, but most of its present products have no connection with salt. Pennsalt's major product in the aerosol field is a complete line of fluorinated hydrocarbon propellants, called "Isotrons."

•

Gas Chromatography Meeting

A three-day International Symposium on Gas Chromatography will be held Aug. 28-30 at the Kellogg Center for Continuing Education, East Lansing, Michigan, by the Analysis Instrumentation Committee of the Instrument Society of America. Gas chromatography is highly regarded as an analytical technique for determining ingredients of aerosols.

The symposium is to be directed toward discussion of theoretical and practical advances in the field of gas chromatography as it applies to both laboratory analysis and industrial process control. Each session will consist of a one-hour paper on a specific phase of gas chromatography, presented by a U.S. or European authority, followed by related 10 to 15-minute contributed papers. The object of the contributed papers is to present data and theories representing the most recent developments in the field.

•

Revlon To Expand Overseas

Revlon, Inc., recently announced a five-year program "to establish Revlon-owned companies in Latin America and the Far East." The program, to begin this year, specifies that the company will provide technical assistance and funds to help establish foreign companies; and then Revlon will serve as part-owner in the operation.

The companies will manufacture and market Revlon cosmetics products. Revlon already has foreign affiliations with firms in Australia and Argentina.

•

Peterson Filling Appoints 2

Peterson Filling & Packaging Co., Danville, Ill., has announced the appointment of Arthur Cross and James Coffield as company sales representatives in Chicago. They will be headquartered at Peterson's sales offices at 7720 North Sheridan Road.

Arthur Cross James Coffield

Mr. Cross was employed in the sales department of Western Union from 1930 to 1936, and in the same capacity for Federal Electric Sign Co. until 1939. From that date until his recent association with Peterson Filling, he was vice-president in charge of sales and advertising for the Cameo Corp.

Mr. Coffield was president of the Dumore Washer Co. from 1928 to 1934, regional sales manager for Steel Products Engineering from 1935 to 1937, Chicago sales manager for the Sefton Fibre Can Co. from 1938 to 1950, and division sales manager for Mullery Paper Packages, Inc., St. Paul, from 1951 to this year.

•

Kratz in New Tech. Post

Phillip De C. Kratz recently joined the technical and development staff of van Ameringen-Haebler, Inc., New York. He was formerly associated with the Hoffman Beverage Co. and the Borden Co., where he was head of the Flavor Department.

•

Cannon to Head Croda

Croda, Inc., New York, manufacturers of lanolins and related products, recently elected J. M. Cannon president and treasurer. He had been a company vice-president.

K. F. Neulinger was elected vice-president in charge of sales, and Miss Y. Perlmutter to the post of secretary of the company.

Toilet Goods Sales Way Up

Total retail sales of perfumes, cosmetics, and other toilet preparations reached a new high record for 1956, according to a report of the Toilet Goods Association, New York. Retail sales last year reached $1.32 million, an increase of about 10.8% over the total figure for 1955.

The association reported that the increase extended fairly generally throughout the entire list of products, but that certain products were prominent. In shaving preparations, for instance, the normal gain of about 5% was more than 9% last year—a rise mainly attributable to a substantial increase in sales in food stores. Aerosol shaving creams were credited with the greater portion of the gain shown in this category.

The increase in hair preparations as a general class was less than during the last two years, but was still a "substantial 12.5%," while deodorant sales increased by nearly 20% (with sales to the male market accounting for most of the increase).

•

Monsanto Honors Brink

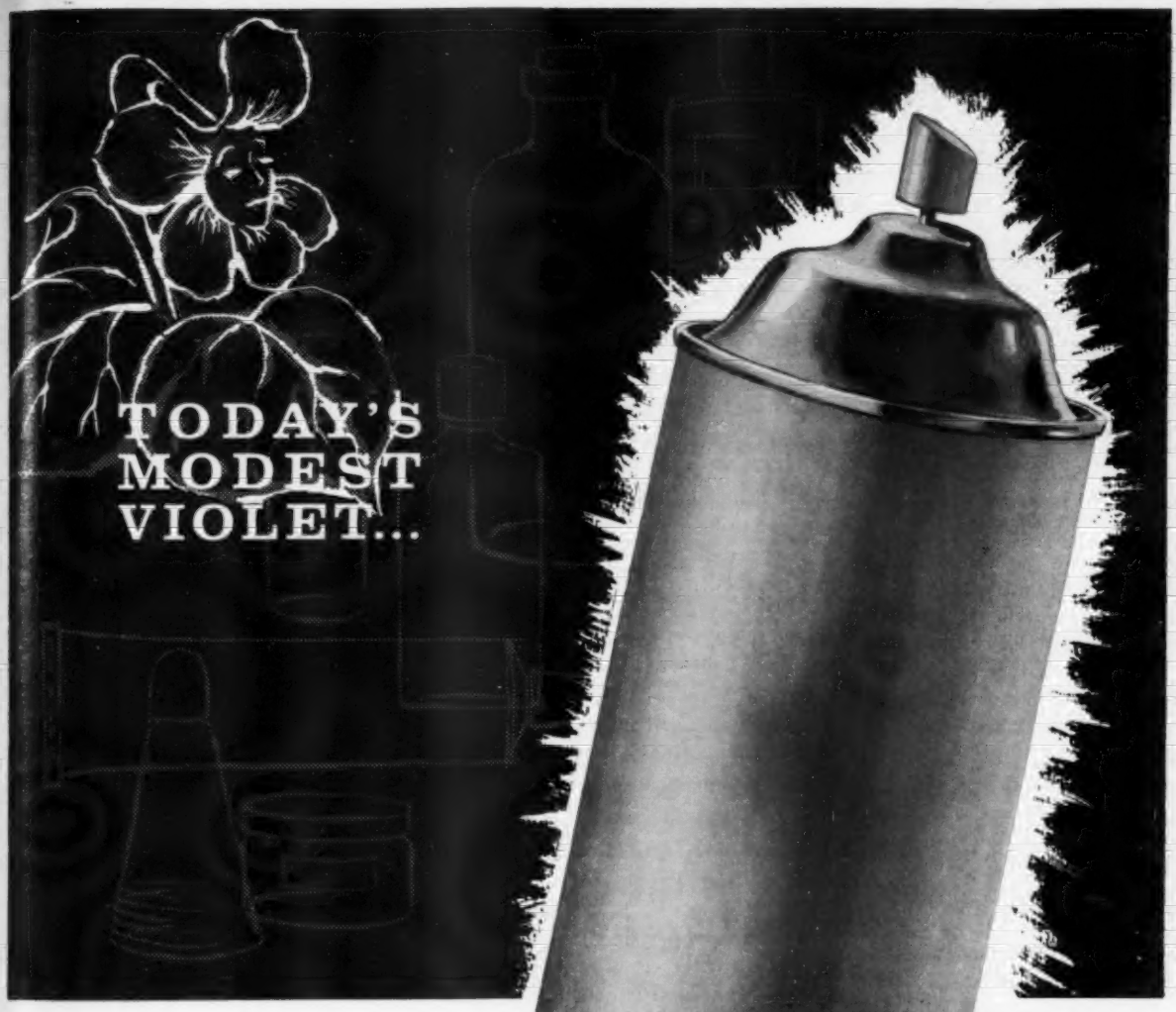
The Inorganic Chemicals Division of Monsanto Chemical Co., St. Louis, recently awarded Dr. Joseph A. Brink Jr. the division's Gaston du Bois Award for outstanding research accomplishments during 1956. Dr. Brink's award was for the completion of a fundamental engineering product through the development of a glass fiber filtration technique for aerosols.

•

Revlon Ad Budget Up 765%

Advertising and promotion budgets for Revlon, Inc., New York, have risen 765% in six years, the company declared recently, in filing with the Securities and Exchange Commission in connection with the sale of 241,020 shares of its Class B common stock. The company reported that its expenditures had skyrocketed from $1.7 million in 1950 to $15.5 million in 1956.

Of its 1956 consolidated net sales figure of $85.7 million, hair sprays accounted for 20%, Revlon reported.

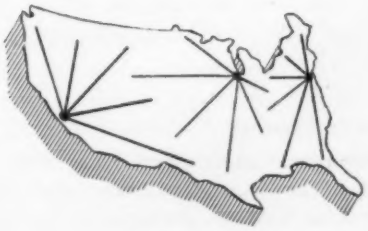


may be tomorrow's AEROSOL STAR!

It may be a cosmetic, pharmaceutical, chemical, food or specialty product. It may be a powder, liquid, or cream. It may be one of the regular products in your line. Perhaps it is an undeveloped formula or the mere "germ of an idea" in some person's mind. But the odds are that some product that is today unspectacular in its present package, may become one of tomorrow's fastest selling items when packaged as an *aerosol*.

Today in G. Barr & Company's laboratories, a continuing program of imaginative and persistent research is being carried on. All focused upon the development of new and better aerosol products and in further perfecting the Private Label aerosols we now manufacture.

We will be pleased to make available to you, the facilities and experience we have gained as America's leading Private Label Aerosol producers, to help you ascertain whether your idea, undeveloped formula or present product has an aerosol potential.



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Maso Joins Amer. Cholesterol

Henry F. Maso, formerly senior research chemist at Johnson and Johnson, New Brunswick, was recently appointed director of technical services of American Cholesterol Products, Inc., Edison Park, N. J. He will direct American Cholesterol's program of customer service and product formulation for the cosmetic and pharmaceutical industries. The company manufactures lanolin-derived emulsifiers, as well as a group of emollient acetylated lanolin derivatives.

Mr. Maso was associated with Johnson and Johnson for 13 years, and has extensive experience in the formulation of cosmetic and topical pharmaceutical vehicles.

•

Rutgers Plans Pharm. Conf.

Current developments in the field of pharmacy will be the theme of the sixth annual Rutgers Pharmaceutical Conference, to be held May 8 at Rutgers University, New Brunswick, N. J. Speakers representing drug manufacturers, wholesalers, chains, and independent retailers will present their views. The conference's morning session will be conducted by Robert B. Fiske, American Cyanamid Co., and the open forum of the afternoon session will be moderated by Mrs. Carroll A. Dayharsh, New Jersey Pharmaceutical Association.

•

Colgate Elects W. T. Miller

William T. Miller was recently elected vice-president in charge of the newly-formed household products division of the Colgate-Palmolive Co., Jersey City, N. J. He joined the company in 1931 and had been president and general manager of its Mexican subsidiary since January, 1956.

•

CanCo Expands 2 Plants

American Can Co., New York, recently began expansion programs at two of its East Coast plants, and completed a major renovation job at a third. Involved are Canco's Hillside, N. J., Needham, Mass., and Baltimore plants, which in total produce as many as 1.9 billion containers a year. At the Baltimore plant, the company reported completion of a $750,000 renovation of its packing and shipping facilities.

•

Shulton Sets Sales Record

Shulton, Inc., Clifton, N. J., cosmetic manufacturer, recently reported that its 1956 sales and earnings have hit the highest figures in the firm's 23-year history. Sales for last year increased 17% to $29.2 million from $24.9 million in 1955, with net income after taxes amounting to $2.78 million, 22% over the previous year's $2.2 million.

George L. Schultz, company president, credited much of Shulton's sales rise to the introduction of nine new aerosol and non-aerosol toiletries products. He said that the international division had grown substantially, and that its activities currently include supervision of subsidiaries in Canada, Mexico, Cuba, Venezuela, The Netherlands, and Great Britain. The company also maintains sales operations in ten other countries.

•

Pyrene Marks Anniversary

The Pyrene Manufacturing Co., Newark, N. J., a leading manufacturer of portable fire extinguishers, is currently celebrating its 50th anniversary. The company, now the Pyrene C-O-Two Division of the Fyr-Fyter Co., Dayton, Ohio, still sells an improved version of its earliest portable fire extinguisher designed by the late Peter G. McGregor a half century ago.

In 1933 Pyrene merged with the C-O-Two Fire Equipment Co. and more recently the combined companies become a division of Fyr-Fyter Co., Dayton, Ohio. The firm's main product lines are still largely the carbon dioxide refillable extinguishers in heavy steel containers.

•

Supermarket Show Set

The fourth National Supermarket Non-Food Exhibit will be held Aug. 25-28 at the Shrine Exposition Hall in Los Angeles. Among the 300 exhibits will be health and beauty aids, baby needs, and other supermarket "specialty" products.

Peterson in Aerosol Post

Peterson Filling & Packaging Co., Danville, Ill., has announced the appointment of John P. Peterson as office manager for the Danville offices. Prior to joining Peterson Filling, he served with the Supply Division of the USAF from 1951 to 1953, and was associated with the Material Control Division of International Harvester, Melrose Park, Ill., for a period of ten years. He is the younger brother of Harry Peterson, company president and current president of the CSMA.

•

Announce Chlordane Contest

A "Show and Sell" Chlordane contest for dealers has been announced by Velsicol Chemical Corp., Chicago, for the months of May and June. Grand prize of the contest is an all expense-paid seven-day vacation in Paris for two, with four additional prizes totalling $1500 and 30 additional prizes totalling $6500. Prizes will be judged on the basis of the best store display for chlordane, maintained for two consecutive weeks anytime between May 1st and June 30.

•

DeVore to "Plaskon" Post

Henry W. DeVore has been named director of "Plaskon" plastics and resins sales for the Barrett Division, Allied Chemical & Dye Corp., New York. He joined the firm in 1932 and in 1948 was appointed product manager for "Plaskon" molding compounds. "Plaskon" products include nylon molding compounds, silicone alkyd, and polyethylene lubricant.

•

Product Wins Graphic Award

The Nestle-LeMur Co., New York, was awarded a certificate of special merit at the recent exhibition of printing of the New York Employing Printers Association. The award was made for "outstanding design" of the company's temporary aerosol hair coloring, "Streaks 'n' Tips" for the product's "unusual use of colored, as well as gold and silver foils on the label."

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Abbott Gibberellic Acids . . . for optimum plant response . . . are shipped in crystalline form ready for commercial formulation. The potency of this plant growth stimulant has been demonstrated on many plants using a dilute solution of only a few parts per million.

Gibberellic Acids on African Violets (and many other plants, ornamentals and trees) give up to three times faster growth and earlier flowering. For technical assistance in the use of Abbott Gibberellic Acids write to Chemical Sales Division, Abbott Laboratories, North Chicago, Illinois.

Increased growth, faster germination, earlier flowering, and release from dormancy are only a few of the benefits of this amazing product.

Now that you can get Abbott Gibberellic Acids, you can make the most of the growing demand among florists, commercial nurserymen and growers, and home flower gardeners. (It is expected that demand will be even greater when further research makes it possible to use Abbott Gibberellic Acids on feed, food and fiber crops.)

Technical Consulting Service: If you wish special assistance or technical aid to get your product on the market with minimum delay, a special Technical Service Representative from Abbott will be glad to help you on formulation or other problems.

For full details immediately on Abbott Gibberellic Acids including prices, availabilities, and technical data . . . write to Abbott Laboratories on your company letterhead, or call DExter 6-3080.

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CSMA Publicity Com. Announces Program Details

A meeting of the Aerosol Publicity Committee of the Chemical Specialties Manufacturers Association was held in New York, April 3rd, at which a decision was reached to activate the Market Development and Publicity Program. G. M. Basford & Co., New York, was named to conduct the program under the supervision of a steering committee from the Aerosol Division. Cost of the first year's activities will be $25,000, a sum that has already been collected.

Members of the steering committee are F. G. Lodes, Lodes Aerosol Consultants, chairman, James W. Bampton, Krylon, Inc., W. Earl Graham, Crown Cork & Seal Co., A. R. Marks, Wheaton Glass Co., A. S. Pero, Fluid Chemical Co., C. S. Stephens, American Can Co., and J. J. Tomlinson, General Chemical Co.

The committee will work closely with the General Aerosol Division Publicity Committee in planning and supervising the campaign. Periodic bulletins will be issued to the CSMA membership setting forth progress of the program.

The program set up by Basford will emphasize a "well-rounded campaign of publicity in printed media, reaching millions of present and potential aerosol users". This will consist of a steady flow of feature stories, news releases, pictures and captions in metropolitan dailies, Sunday supplements, small town newspapers, magazines, etc. The suggested budget provides $16,000 for preparation of such publicity stories, with an additional $4,800 set aside for mechanical costs, limited local travel, clipping services, etc.

It is also proposed to prepare a five-minute motion picture for showing on daytime women's TV programs. In the budget $4,200 has been provided for preparation and distribution of the proposed film, which would receive guaranteed showings on 75 or more TV stations across the country.

•

Western Appoints Webster

ROBERT C. WEBSTER, formerly a Research Engineer at the Continental Can Co., Metal Research and Development Laboratories, Chicago, Ill., was recently appointed general manager of the newly formed Pressurized Food Division of Western Filling Corp., Los Angeles. He holds a B.S. and M.S. in Food Technology from the University of Massachusetts.

Prior to joining Continental Can, Mr. Webster was employed as a food chemist at National Canners Association Laboratories, Berkeley, Calif. He was active in the development of pressurized foods during his two years with Continental Can Co., and several technical papers on the subject recently prepared by Mr. Webster will be published in coming months.

•

Florasynth Names Sales Rep.

Florasynth Laboratories, Inc., recently announced the appointment of the Henry M. Rubin Co., Elkins Park, Philadelphia, as its technical and sales representatives (in Eastern Pennsylvania, Southern New Jersey, Delaware, and Maryland) for the promotion of its masking agents and bouquets to aerosol and other industrial manufacturers. The Rubin Co. is said to be particularly qualified to investigate problems related to the abatement of obnoxious odors in industrial fumes and wastes.

•

New VCA Dispensing Unit

A new aerosol dispensing unit which combines the valve and cap, thus eliminating the need for a removable protective cover, has been developed by the Valve Corp. of America, Bridgeport. Called the "Mist-Top," the dispenser is designed primarily for cosmetic, toiletry, and pharmaceutical products. According to VCA, it can be adapted to conventional and metered aerosol valves, and is available in plastic, brass or aluminum.

It is designed to fit all standard containers (10cc. to four-ounce) and is available with either wet or dry spray. Both types can be fitted with a mechanical break-up device to obtain bursts of fine particles.

Philip H. Sagarin, VCA president, declared that the new development is the result of a desire to eliminate the "unglamorous mechanical-appearing mechanism" plus the need to remove and restore the cap. He said there was much advance enthusiasm for the development.

•

FDA to Act on "Aeroplast"

A proposal to remove "Aeroplast" (an aerosol for the treatment of cuts and minor burns) from the prescription-only category to permit over-the-counter sale of the product has been made by the Food and Drug Administration. The FDA proposal came as the result of an amended drug application by its manufacturer, Aeroplast Corp., Dayton, Ohio. Though it applies only to "Aeroplast," it is expected to bring similar applications from other aerosol producers.

Aeroplast Corp., in making the application, cited evidence of long use of the aerosol product without adverse effect, and reported that 100,000 containers were sold through May, 1955.

— Convention Calendar—

Toilet Goods Association, *Waldorf Astoria Hotel, New York, N. Y.*.....May 7-9, 1957

International Packaging Fair, *Amsterdam, Netherlands*.....May 14-21, 1957

Chemical Specialties Manufacturers Association, *Drake Hotel, Chicago, Ill.*.....May 20-22, 1957

International Symposium on Gas Chromatography, Kellogg Center for Continuing Education, East Lansing, Michigan.....Aug. 28-30, 1957

Chemical Specialties Manufacturers Association, General Luncheon, *Commodore Hotel, New York, N. Y.*.....Sept. 16, 1957

Chemical Specialties Manufacturers Association, *Hollywood Beach Hotel, Hollywood, Fla.*.....Dec. 9-12, 1957

Insecticide Sales Up

Aerosol insecticides continue to dominate the packaged household market, according to a report issued last month by the General Chemical Division, Allied Chemical & Dye Corp., New York. Of the total market for 1956 (estimated at $114 million for the entire packaged insecticide sales) aerosols made up an estimated 56% ($64 million) the report said.

By 1960 retail sales of aerosol insecticides are expected to hit $83 million, or 65% of the market foreseen for that date.

Aerosols Overseas

(*From Page* 33)

provide a cushion for later warranted price reductions. On the German market there are already five different makes of valves which we know about, and we understand that others are scheduled for early appearance. The competition is clean and healthy, as it well should be.

On the container side, J. A. Schmalbach, Braunschweig, Germany's largest can producer, has announced lower prices on a three-piece, welded-seam aerosol can with a staked-in valve. So far, the announcement covers only minimum lots of 100,000 containers, which (complete with valve and protective cap) comes to DM 395 per thousand ($94.05) for the six-ounce size and DM 495 ($118) for the 12-ounce size. This represents a reduction of from 20 to 25% below previous prices. The containers are assumedly delivered with open bottoms which adds another operation in pressure filling and requires the loader to seam on his own bottoms (taking the risk of leakers around that seam). Also, it is not clear whether the customer has any selection about the type of valve which will be staked in and it is entirely possible the one furnished may not be the most suitable for all kinds of filling or products.

To the staked-in valve itself we have no objection, but to the valve-can-tie-in where the customer has no choice, we do have one because in our opinion it restricts the market. Any practice which restricts the market, in our opinion operates as a restraint on trade. We are for open markets and open trade on all products. But the price reduction is a good sign and we await more details about the sales conditions.

LEST our position on this matter be misunderstood, we should add we are in favor of every development which lowers costs and prices and increases consumption. If this is accomplished by staking the valve in the can dome, thereby eliminating the valve's customary mounting cup and permitting the buyer to have any valve he wishes staked-in, then our point evaporates. However, if the customer has no choice and is required to accept a particular valve with a particular can and cannot buy either one separately, it is somewhat like requiring that only a certain kind of shoelace be worn with a certain kind of shoe, or an automobile manufacturer saying that with his car only a certain kind of gas, oil or tires can be used. Supposing a propellant manufacturer were to require that with his product only certain filling equipment, valves and cans could be used. Where then would our industry be now? The trade has its own ways of meeting and solving these practices, which for success must depend on the purpose behind their initiation.

Within the past three months German prices on propellants (see *Aerosol Age*, February, 1957), valves and containers have now all been substantially reduced and contract loaders have lowered their charges somewhat. It would appear that Germany, at least, is all set to go.

It seems inevitable that these reductions in basic component prices must eventually find their way into consumer end prices, but so far we have not been able to find any six-ounce cans of any kind of product on the German market under DM 4 per can (about $1). Here again our good old middleman enters the picture and it seems only fair to ask, with this increased volume and quicker turn-over, what kind of cut will *he* take. We will watch this development with considerable interest.

Book on Aerosols Needed

AEROSOL interest is quickening in South and Central American countries, as well as South Africa, but from the questions raised the interest is mostly at the exploratory stage. What our industry badly needs for small starting operations in these overseas countries is a comprehensive book covering all aspects of aerosol loading. In the U.S. the job has been excellently done by individual product manufacturers, though often primarily for their own products. No one has as yet put all matters together in one condensed and comprehensive booklet. We are sure propellant manufacturers are deluged with inquiries on filling machines and valves; the container manufacturers likewise on propellants, labeling, and lacquers, and the valve manufacturers on container pressures, product concentrates, etc. We understand an authoritative book is in the works though so far with no publication date set. To this date there is no comprehensive work which explains to the uninitiated exactly what components are required to load aerosols and approximately how much they cost. Budding authors please take note. The material is all there but so far no one has taken the time to put it together.

With winter now out of the way and spring upon us, we can get back to some real work in aerosols. We have shortly to do some rather extensive travelling through Continental Europe where, naturally, our aerosol interests come first. We hope to have some first hand accounts of developments in France, the Benelux countries and also Italy, but first we have to shed the transatlantic stilts. Now that we have observed the industry on both sides of the Atlantic, we appreciate more clearly that—as with a medallion — you cannot see both sides at the same time, no matter how quickly you try to turn it. The "Old Country" will forever be just that, and the "New Country" the same, but it is not like Kipling's "East and West" for the twain *do* meet. Our purpose is to make the introductions a little easier.★

Brickbats & Bouquets

(*From Page 8*)

locally—especially in view of the fact that it is impossible to manufacture the soldered or interlocked-seam container in this country.

Although we have obtained some promising results we are not convinced that this is the ideal solution, especially in view of indications from Europe that there is a trend developing toward seamless containers. We are therefore studying the production of an extruded aluminum container, and would be much obliged for advice as to the advantages and disadvantages of this type of container.

We realize that an aluminum container would not serve for soap products, etc., but it should be mentioned that our main production would at first be insecticides. We suppose that, with a suitable protective coating inside, it should be possible to fill practically any product in an aluminum container. We should very much like to hear some opinions on the subject.

SZILARD & CIA. LTD.
Casilla 9488
Santiago, Chile

We have provided the company with the requested addresses, have ventured some opinions of our own on the country's container problem, and have given the names of some of the leading producers of each of the container types in the U.S. Our readers are invited to contact the writer with opinions or findings of their own.

I wish to compliment you on this very fine journal. It is excellently written and edited, and greatly needed by the industry.

John A. Bacon
CONSULTANT AND FORMULATOR
Evanston, Ill.

Please send us, at your convenience, a complete list of aerosol valve manufacturers in the U. S.

Charles Y. Neff
NEFF-PERKINS CO.
Cleveland, Ohio

A list of all companies currently manufacturing aerosol valves was dispatched to Mr. Neff.

We have noted with considerable interest the publicity you have given "Polybactrin" and our Vapsol valve on the cover of your March issue. This accomplishment of spraying dry powder was achieved after long experimentation in our technical laboratory, with a substantial assist from Messrs. Brown & Forth, London agents of E. I. du Pont de Nemours, Wilmington.

We are indeed proud of our company's achievement, and of the work of the Calmic Co. and of Messrs. Brown & Forth. We think the Vapsol valve may open a new era for surgery, and we believe that in this instance (in fact, one of the very rare occasions) the aerosol industry in England is ahead of the United States.

We'd like to compliment you on your journal, as there is no doubt that it is the best and most up-to-date trade magazine in the aerosol field. It is eagerly awaited here every month.

M. Norton
DIRECTOR, M&R NORTON LTD.
London, England

Insecticides Panel

(*From Page 31*)

aerosol products containing 80 or 85% propellant gas or with residual pressurized insecticide dispensers. The aerosol dispensers deliver a finely divided mist spray having 80% of the particles under 30 microns and none over 50. The insecticidal performance of such a spray against houseflies should be equivalent to the OTA when tested by the official method of this Association. The critical points for evaluation are the 5, 10 and 15 minute knockdown periods and the 24 hour mortality. A tolerance of plus or minus 5 percentage points is permissible at equal dosages of the OTA and the test sample. The residual dispensers should contain formulations which will deposit the necessary residue of the pesticide on the treated surface. While the deposit of the necessary residue is the primary factor in evaluating the utility of these products, it is usually considered that the preponderance of the spray particles will have a mean diameter in excess of the 40 or 50 microns. The pressurized sprays mentioned above are intermediate between the aerosol and residual products. However, they are perhaps closer to the aerosol group since they are intended to perform as space and contact insecticides against common household pests. These products may deviate from the aerosol group in that the spray will exceed the above-mentioned particle size distribution and will not produce the biological performance of OTA. This intermediate class of products requires further study to determine the range of formulations which can be accepted under the Federal Insecticide, Fungicide, and Rodenticide Act. Pending further study, the following minimum formulations will be accepted:

Pyrethrins	0.15%
Synergists	0.5 %
Solvent & propellant in appropriate amounts	99.35%

Pyrethrins	0.05%
Synergists	0.5 %
DDT	1.5%
Solvent & propellant in appropriate amounts	98.95%

Mr. Jefferson: We are not prepared to say what the minimum concentration may be other than to state that the net effect in terms of biological performance must be at least equal to that of the OTA.

DDT in an Indoor Spray

Dr. Campau: Can an aerosol, pressurized, or liquid spray, containing 5% DDT, be recommended as a space spray indoors for the control of flies, mosquitoes, and gnats?

Dr. Ward: Aerosol formulations containing over 3% DDT (w/w) are very uncommon, although a few, accepted several years ago with 5% DDT, may still be available on the market. Pressurized and space spray formulations other than aerosols, as discussed under the previous question, may contain 6% DDT (w/w) with directions for space spray and residual application against small flying insects.

Mr. Jefferson: We have not considered the acceptance of space sprays, pressurized or non-pressurized containing 5% DDT. One per cent in non-pressurized and 3% in pressurized formulations are considered operating maxima.

Maximum DDT

Dr. Campau: Is there any established maximum on the content of DDT or combinations of DDT and other chlorinated hydrocarbons in aerosols or in these pressurized sprays? (75-25 or 55-45)

Dr. Ward: Aerosols for household use ordinarily contain no more than 3% DDT (w/w), 3% Methoxychlor, 2% Strobane, or 3% Perthane. Liquid space sprays ordinarily contain no more than 6% DDT (w/w), 1% Methoxychlor, 2% Strobane, or 6% Perthane. These formulations often contain other insecticides. Pressurized wetting sprays and liquid sprays not intended for mist spray use may contain 6% DDT (w/w), 6% Methoxychlor, 6% Strobane, 6% Perthane, 3% Chlordane, 0.5% Lindane or 0.5% Dieldrin. For combinations of these, the hazard of the mixed formulation should be no greater than for any one of the ingredients separately at its maximum. Thus with a combination of Chlordane and Dieldrin, each might be present at ½ of its maximum, or ¾ the maximum of one plus ¼ the maximum of the other, etc. Exception to this rule has been made with pressurized wetting sprays as to content of DDT, since when the solvent has evaporated the DDT offers little hazard of skin absorption. Permissible content of DDT in a mixed formulation is calculated according to the above formula, and this quantity may be doubled, provided the DDT content is not thereby increased above 6%.

Maximum Thiocyanates

Dr. Campau: Is there any established maximum on the thiocyanates that can be

used in aerosols or pressurized sprays when combined with DDT or other chlorinated hydrocarbons?

Mr. Billings: We have had occasion to register aerosol formulations for household use containing over 3% organic thiocyanates, although there may be a few mist and contact sprays designed for use against crawling insects containing higher amounts of thiocyanates, with incidental directions for control of small flying insects. It is our understanding that any increase in effectiveness of aerosols by increased concentrations is outweighed by subjective complaints as to irritant properties. The presence of organic thiocyanates at or below 3% has not so far made it necessary to limit the concentration of chlorinated hydrocarbon insecticides below the levels acceptable as listed in answer to the previous question. However, before accepting the newer combinations, such as strobane-thanite, or perthane-lethane mixtures in aerosols, data on subjective reaction to these combinations were collected in what might be termed human "consumer acceptance tests," with particular emphasis on search for any increased irritation or other untoward symptoms which might be due to the mixture.

Mr. Jefferson: Absolute maxima for the thiocyanates have not been considered. However, we have accepted up to 4% Thanite, 5% Lethane 384 and 8% Lethane 384 Special in non-pressurized formulations. Two per cent Thanite and 4% Lethane 384 have been accepted for pressurized formulations.

Methylene Chloride

Dr. Campau: Is there any established maximum on the amount of Methylene Chloride that is present in aerosol cans?

Mr. Billings: We have not established any formal maximum limit for the presence of Methylene Chloride in aerosol or other pressurized dispensers intended for household use. However, the maximum level we have encountered is approximately 50%.

Mr. Jefferson: No established maximum in Canada.

Particle Size

Dr. Campau: What has to be known about particle size in order to register an aerosol?

Mr. Billings: Aerosol products of the conventional type having propellant ratio of 80-20 or 85-15 are not being questioned as to particle size at the present time if the formula submitted conforms to our records of previous acceptance. Any unusual or special feature of the formulation or of its labeling may prompt questions as to the particle size distribution of the spray to be dispensed.

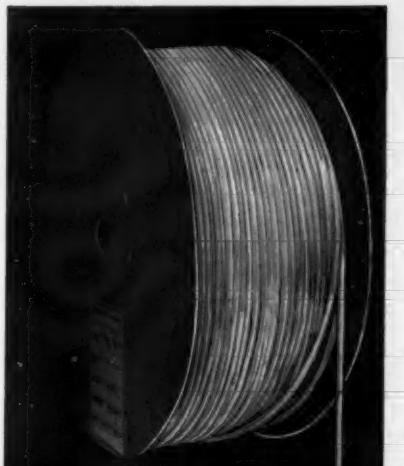
Applications for the registration of pressurized space sprays of the intermediate class discussed above are usually processed without specific information as to the particle size distribution of the spray. Any unusual or special features of the formulation or labeling may prompt questions on this subject. Applications for the registration of residual spray formulations in pressurized dispensers will usually require the submission of some evidence that the emitted spray would adhere to the treated surface and not float in the air of the room. This is necessary in order to determine whether or not the product will have reasonable insecticidal value and to guard against harmful amounts of the insecticide being present in the air. When pressurized formulations containing up to 0.5% lindane, 0.5% dieldrin or 3% chlordane have been submitted for consideration as residual sprays, we have regularly requested evidence as to the characteristics of the emitted spray. Most frequently the data have been presented as particle size analyses according to the method of A. H. Yeomans (ARS 33-5, March '55, A Method of Determining Particle Size of Liquefied Gas Aerosols). We are presently considering proposed methods for evaluating residual sprays, one of which was submitted by the Particle Size Subcommittee of the Aerosol Scientific Committee of your Association. These methods are based on attempts to show that effective residues are laid down and that contamination of the atmosphere would not be significant by measuring the percentage deposit of emitted spray on a target. While this proposed testing method is in the discussion stage, we will be willing to consider data based on these methods as evidence of deposit of effective residues, provided sufficient replicates are given on several types of target surfaces to assure reasonably representative results. We are hopeful that further study of this approach will yield a method suitable for evaluating both the degree of deposit and the potential contamination of the atmosphere. In any case, we will be glad to consider data gathered by any of these methods with respect to the specific formulation tested, and comment on the need for any further tests to determine that the formulation would not leave harmful amounts of insecticide in the air.

Methyl Chloroform

Dr. Campau: Can methyl chloroform be used as a solvent in aerosol insecticides? If so, what is the maximum concentration permitted?

Mr. Billings: We have agreed to accept up to about 20% of methyl chloroform in household aerosol dispensers subject to the usual directions and precautions.

Mr. Jefferson: Yes. Based on MAC values we feel that any amount likely necessary for solvent purposes would be acceptable.★



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All Products manufactured to our own Designs, Formulations and Patents. Valves available from Germany and Italy—Filling Machines from Germany—Laboratory Equipment and Concentrates from Switzerland.

Publishers of "European Aerosol Survey," a quarterly periodical

Catalogues and Prices on Request.

Who's Who in the Aerosol Industry

William E. Baulieu has been chief chemist of the East Main plant of the Bridgeport Brass Co., Bridgeport, Conn., since World War II.

His early work in the Company's laboratories was on chemical, analytical, research, and metallurgical problems, particularly as they related to plating, finishing, and metal working. In these same laboratories, some of the pioneering work on throw-away containers was begun, as well as work on the first aerosols initiated as the result of a specific requests from the Armed Forces.

Mr. Baulieu attended the New York Electrical School, as well as the Alexander Hamilton Institute, Yale University, New York University, and the Plastic Industries Institute, taking special courses on subjects related to his particular field of interest. He has served as an instructor of chemistry and metallurgy at the Bridgeport Engineering Institute.

When the National Association of Insecticide and Disinfectant Manufacturers changed its name to C.S.M.A. and organized into five division, he was appointed a member of the Aerosol Scientific Committee. He has served continuously on the committee and recently completed two years as chairman.

He is a member of the American Chemical Society, the American Electroplater's Society, the Entomological Society of America, the Armed Forces Chemical Association, the Bridgeport Engineers Club, and is the Bridgeport Brass Company's representative on

Committee B-8 of the American Society for Testing Materials.

He enjoys golf, although his earlier interests in sports were in baseball and tennis.

Mr. Baulieu is extremely enthusiastic about the aerosol possibilities, and believes that in the future we may look to even further advancement in the aerosol method of dispensing.

Morris J. Root, technical director of G. Barr & Co., Chicago, since 1953, has gained a solid reputation as a technical authority in the aerosol field. During the past few years he has had a number of articles published on various aspects of aerosol developments, and has delivered papers before the Chemical Specialties Manufacturers Association, Toilet Goods Association, Society of Cosmetic Chemists, Packaging Institute, and the American Drug Manufacturers Association.

Mr. Root's chemical background dates from 1939, when he obtained a bachelor's degree in chemical engineering at the University of Minnesota. In 1941 he added a master's degree from the University's Institute of Technology.

His first research experience was at the Mines Experiment Station of the University of Minnesota, on a project aimed at the production of manganese from low-grade Minnesota ores. He later developed a process for the manufacture of high priority iron powder metalling processes from low grade iron ores.

In 1944 Mr. Root became associated with the Raymond Laboratories, St. Paul, which was at the time under contract to the Chemical Warfare Branch of the Army. Later he became senior chemist and worked on research and development of cosmetic products. Prior to joining G. Barr in 1953, he was assistant research director at Raymond Laboratories.

Aerosol interests in the Root family are not the sole domain of the father. Avram Root, Mr. Root's 14-year old son, has had several of his cartoons on aerosols published in trade journals.

Mr. Root currently directs a staff of some 14 chemists in one of the largest technically-trained research units in the custom filling field.

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Polak & Schwarz' research Laboratories have completed an intensive study of the behavior of hundreds of ingredients and perfume compounds in aerosol formulations.

A thorough knowledge of physical and chemical compatibility, effects on corrosion, stability of active ingredients and odor — all this and more are at our fingertips.

The art of fine perfumery and the science of cosmetic and chemical specialty perfumery have been skilfully blended by our aerosol research department.

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Many a race is won by a nose . . . especially sales races in which the odor of your aerosol is a decisive factor in establishing brand preference. Use MM&R perfume oils and neutralizers to increase the sales-appeal of your insecticides, space deodorants, shave creams and other aerosol-packaged products. It's a sure way to "Make 'em reach for your brand!"

Write for full information. The MM&R Technical Staff will be glad to select or develop a perfume oil to meet the exacting requirements of your product, propellant and container.

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Test Ovens — Standard or Custom Built
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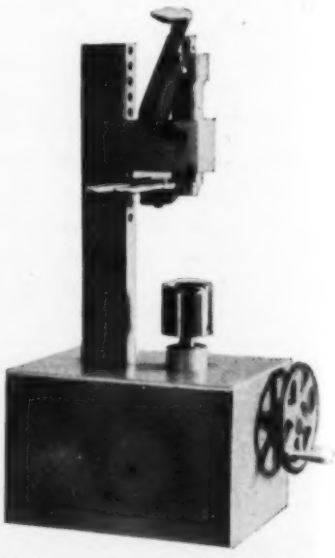

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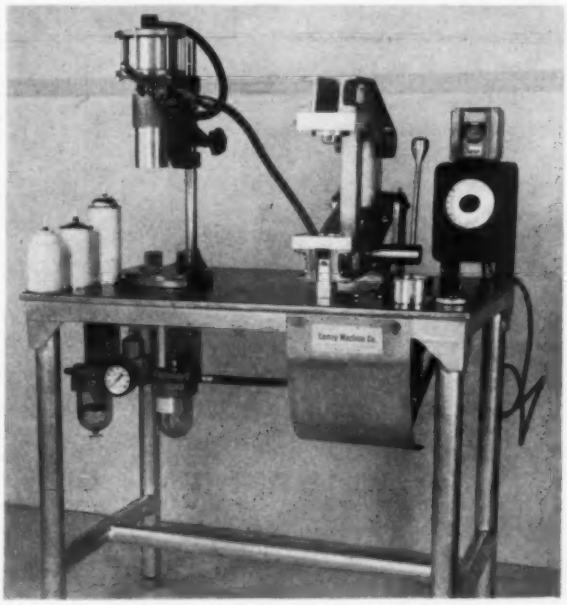
Lemay Machine Introduces New Gasser-Shaker

The Lemay Machine Co., St. Louis, Mo., recently announced a new laboratory gasser-shaker, as an addition to its line of automatic and semi-automatic CO_2 gasser-shaker machines used by the whipped cream and food industry for pressure loading of food products.

This model, No. LM-3000, is said to allow a test to be made in the laboratory, with the exact final results of production pressure loading equipment. All parts are made from aluminum castings and stainless steel, to permit that machine to be easily kept sanitary and free of rust.



It is equipped with a timer that controls the shaking time during gassing. This timer has variable controls so that the correct stabilizing condition can be determined for various products. The pressure controls for the gas mixture are also variable.

The gasser-shaker is equipped with inserts which make it adjustable for 12-ounce Crown cans or 16-ounce Conco and Canco containers with the standard one-inch opening. A special gassing head insert is available for the Canco 211 full dome can. The model is complete, and requires only a 110 volt outlet, a tank of gas, and air to operate the one-inch crimper.

New Water Demineralizer

A new, low cost, self-operating ion exchange water demineralizer was announced recently by Crystal Research Laboratories, Inc., Hartford, Conn. The device is designed to fill the need for moderate quantities of mineral-free water in laboratories. It operates unattended at a rate of two or three quarts an hour, and comes equipped with an air check valve for easy flow.

•

Standard Issues Bulletin

Standard News, a bulletin devoted to periodic reports "on timely developments, news, and views, for the perfume arts and sciences," was introduced last month by Standard Aromatics, Inc., New York. The first issue, dated April 1957, discusses perfumes for thioglycolate solutions, unusual fragrances, the perfuming of iodophors, and a round-up of "aerosol tips."

Among the aerosol tips on the development of "things to come" are: the new trend to purse-size and traveling kit containers (both glass and metal), a new valve that will enable the customer to refill smaller bottles or cans from a reservoir container, and a resurgence of the sachet business for both men and women.

Montrose Offers Repellent

Diethyl Toluamide, developed by the U.S.D.A. and described as the "best all-purpose insect repellent so far developed," is being offered by Montrose Chemical Co., Newark, N. J., in pilot-plant quantities. The material can be applied directly to the skin or clothing and protects the user against mosquitoes, ticks, fleas, biting flies, and a number of other insects, for up to eight hours.

Montrose is offering a high concentration meta isomer of Diethyl Toluamide to formulators of insect repellent lotions and similar preparations.

•

New Gas Chromatograph

A new gas-liquid chromatography instrument, which the manufacturer claims is economical for school and research use, has been announced by Wilkens Instrument & Research, Inc. Called the "Aerograph", the instrument may be adapted to do specific tasks by the interchange of columns. Of the two models, one is equipped with a strip chart recorder and the smaller model is not.

•

Chemical Analyses Issued

The Chemical Specialties Research Laboratories, New York, recently announced the availability of their 1957 catalogue listing reports on more than 1500 trade-name chemical specialties. Included are reports on all types of cleaners, cosmetic preparations, detergents, waxes, bleaches, polishes, and many other household and industrial items.

Manufacturers of chemical specialties, who do not have the facilities for making their own analyses, can obtain a price list and catalogue of items reported by writing to the laboratories at Box 33, Ansonia Station, New York 23.

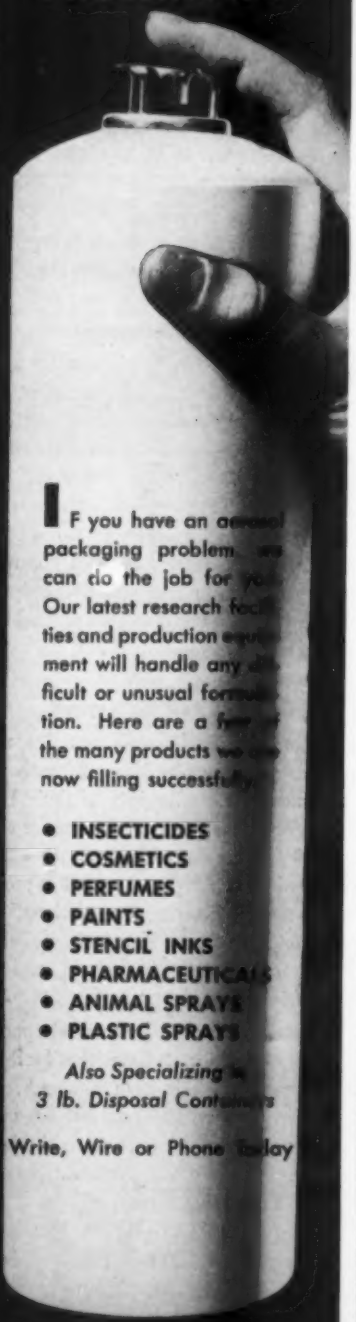
•

New Aer-O-Fil Folder

Aer-O-Fil Engineering Corp., Needham, Mass., has issued an illustrated mailing folder which lists all of the aerosol equipment offered by the company. The company's line includes all types of processing, propellant handling, and packaging equipment, in addition to complete aerosol plants.

Specialists in Small Run

AEROSOL PACKAGING



IF you have an aerosol packaging problem we can do the job for you. Our latest research facilities and production equipment will handle any difficult or unusual formulation. Here are a few of the many products we are now filling successfully:

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New Market for Freon

E. I. duPont de Nemours, Inc., Wilmington, recently announced a new outlet for "Freon 114" aerosol propellant. The propellant may be used in conventional heating systems, taking the place of water, to constitute a new type of cold vapor heating system.

The propellant is vaporized with hot water or light mineral oil by a heat exchanger hooked to the boiler before it enters room radiators. When the sytem is shut off, the "Freon 114" flows back to the heat exchanger as a liquid. Developed by R. T. Eichman of Carba, a Swiss company, the system is expected to find use in lodges, churches, motels, and other buildings not continuously in use.

•

Methylene Chloride Folder

The Solvay Process Division of Allied Chemical & Dye Corp., New York, last month issued a new folder describing how use of methylene chloride can cut propellant costs and provide higher solvent power in non aqueous aerosols. Besides describing the characteristics of methylene chloride, the folder lists a number of possible applications for the product in aerosols.

•

Silicone Promotion Pushed

Plans for a second nation-wide promotion of "Syl-mer" silicone finish for textiles, and "Sylflex," silicone for leather, have been announced by Dow Corning Corp., Midland, Mich. The campaign will be backed by national magazine and radio advertising to stress uses of the materials as protectants for fabrics and shoes.

•

Issue New Aerosol Booklet

Polak & Schwarz, Inc., New York, last month issued *The Aerosol*, a new illustrated booklet outlining some of the general problems and principles of pressurized packaging. Containing much technical information, as well as a section on perfuming of aerosols, the booklet is expected to find use as a general introduction to the aerosol field.

Pegasus Issues Booklet

"New ways for large and small businesses to turn 'know-how' into profits overseas" are described in a booklet just issued by Pegasus International Corp., New York management consulting firm. The booklet points out that changing conditions have created new opportunities that may be overlooked by U.S. firms with new products or processes.

•

Pipe Fittings Catalogue

A 22-page illustrated catalogue describing a complete line of corrosion-resistant pipe fittings was issued recently by Horace T. Potts Co., Philadelphia. The fittings, including elbows, reducers, caps, connectors, flanges, expanders, etc., are said to be particularly designed for stainless steel piping installations—of the type used in propellant and some product filling lines.

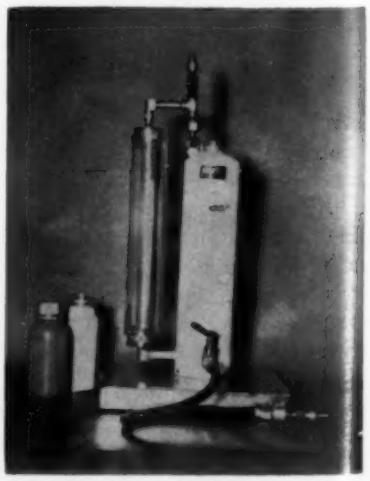
•

Aromatics Unit Established

Philip C. Burnham, formerly with R. W. Greeff & Co., was named recently by Hoffmann-La Roche, Inc., Nutley, N. J. to the position of sales manager of its newly-formed aromatics division. To be assistant sales manager the firm appointed Burton T. Bush, Jr., formerly with S. B. Penick & Co.

•

New Transfer Apparatus



New liquid transfer apparatus being manufactured by Builders Sheet Metal Works, Inc., New York, for transferring liquids under pressure.

Perfumers Symposium

(*From Page* 15)

"What's Ahead for Instrumental Analysis in the Perfume Industry," was the topic of a paper by Dr. Ernst T. Theimer, van Ameringen-Haebler, Inc., who said that perfume materials are organic compounds and methods for their analysis must be based on properties of organic materials. Chemical reactions of functional groups are gradually being supplemented and replaced by physical measurements which accomplish the task of determining these groups more rapidly, with greater accuracy and on smaller samples, he pointed out.

The symposium was attended by well over 200 persons. The business session was followed by a buffet supper.★

Aerosols in Japan

(*From Page* 24)

change technical opinions to facilitate and promote the development of their industry.

No article of this type would be complete without a list of all the manufacturers of aerosols in Japan:

1. *Tokyo Aerosol Kagaku K.K.*, Tokyo, (Tokyo Aerosol Chemical Co.) manufactures chiefly hair lacquer, employing its own filling machine plus an Alpha semi-automatic model.

2. *Nihon Aerosol Kogyo K.K.*, Osaka, (Nippon Aerosol Industrial Co.) is primarily a loader, but also manufactures hair lacquer—chiefly with its own equipment.

3. *Aerosol Kogyo K.K.*, Osaka, (Aerosol Industrial Co.) is exclusively a loader and manufactures no product of its own. Its chief equipment is an Alpha pressure filling unit.

4. *Toyo Aerosol Kogyo, K.K.*, Tokyo, (Oriental Aerosol Industrial Co.) is a subsidiary of Toyo Seikan, small-can manufacturer, and is active as a loader with its own cold fill machinery. The company had been using exclusive petroleum-type propellants, but last year used "Freon" to produce insecticide for the U.S. Army.

5. *Nippon Spray K.K.*, Tokyo, fills it own product, but also works as a loader and a manufacturer of valves and cans.

6. *Kasei Kagaku Kogyo K.K.*, Shizuoka, (Kasei Chemical & Industrial Co.) produces and sells only hair lacquers.

7. *K.K. Oshimo Kaishundo*, Hiroshima, is one of the largest insecticide manufacturers. "Fumakiller" is its leading brand.

8. *Kimura Seiyakusho*, Ako-City, (Kimura Chemical Co.) is one of the largest insecticide manufacturers and the first to import U.S. filling equipment. "Earth" is its leading brand.

9. *Nagaoka Kuchuzai Seizo K.K.*, Kobe (Nagaoka Insecticide Manufacturing Co.) makes aerosol insecticides with its own equipment.

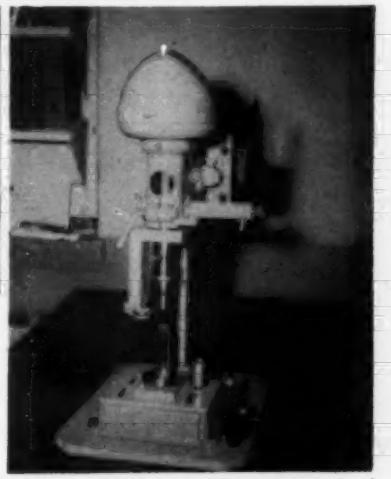
10. *Dainippon Jochugiku, K.K.*, Osaka, (Ueyamayei's Japan Insecticide Mfg. Co.), and *Daido Jochuguku K.K., Wakayama*, (Kaido Pyrethrum Flower Co.) both produce their own insecticide on their own equipment.

11. *Arimino Kagaku K.K.*, Tokyo, (Arimino Chemical Co.) is filling hair lacquer, but most of its products are filled by other loaders.

CONTAINER MANUFACTURERS

1. *Asia Kinzoku Kogyo K.K.*, Osaka, (Asia Metal Industries Co.) is the oldest container manufacturer in Japan, and is currently making chiefly seamless cans. The company is also making tin pressed (0.2 mm) seamless cans, and conventional cans in 4, 6, and 12-ounce sizes.

2. *Toyo Seikan K.K.*, Tokyo, (Toyo Can Manufacturing Co.) is making mostly 12-ounce tin cans.



• *(Above)* **Screw on top for glass aerosol containers for making refillable glass aerosols.**

• *(Right)* **Drill press capping machine for fastening valves to glass containers.**

LAB EQUIPMENT FOR GLASS AEROSOLS

Make your own aerosol samples, using these tested Builders products. The screw on top allows you to make refillable glass aerosols—and will fit both coated and uncoated bottles. If you have a special bottle, send a sample for sure fit.

Price $23.50

for 6 sets, including 2 oz. plastic coated bottles and valves.

The drill press capping machine is used for rolling and fastening aluminum or steel valves to tops of glass bottles. Production rate is approximately 2 per minute. A foot switch is included.

Price $198.00

Other outstanding Builders items:

Constant temperature water baths, stainless ovens, tables, lab cabinets, containers, pressure testers for aerosol containers, snap-on screw top for aerosol containers.

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3. *Amagasaka Seikan K.K.*, Hyogo (Amagasaka Can Mfg. Co.) is also devoting its major activities to 12-ounce tin cans.

4. *Taiyo Tube Kogyo K.K.*, Osaki, (Taiyo Tube Industrial Co.) is making four-ounce aluminum cans.

5. *Kamaya Kagaku Kogyo K.K.*, Tokyo, (Kamaya Chemical Co.) is making cans and bottle aerosol containers.

VALVE MANUFACTURER

Aerosol Kagaku Kenkyusho, Hyogo, (Aerosol Chemical Research maunfacturer in Japan, is making K-38 type valves.

AEROSOL MACHINERY MANUFACTURER

Aerosol Kagaku Kenkyusho, Hyogo, (Aerosol Chemical Research Co.) is a manufacturer of aerosol machinery, and also gives technical advice.

AEROSOL COMPONENTS SUPPLIER

King Trading Co., Ltd., Kobe

Although conclusive aerosol figures are not published in Japan, a good estimate of total production would be somewhere in the vicinity of 2.5 million cans every month—including, of course, all pressurized products. Though Japan hasn't really "come of age" in aerosols, the time when it will is not far off.★★

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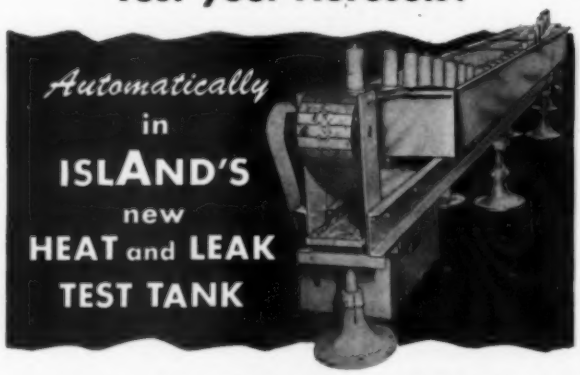

Stainless steel Rex Table-Top chain, available in various widths for single or double lines of cans...and the cans are prevented from slipping on the incline and decline by magnets attached to the chain track. The tank itself may be constructed.in hot dipped galvanized or stainless steel, and the unit serves as both a heat and leak test tank.

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New Aerosol Patents

The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication.

Complete copies of these patents may be obtained by writing to the publisher of this magazine, Aerosol Publications, Box 31, Caldwell, N. J., and remitting 50c for each copy desired. For orders received outside of the United States the cost will be $1.00 per copy.

2,784,875. LIQUID DISPENSER. Patent granted March 12, 1957 to John E. Brink, Grosse Pointe, Mich.

A fluid dispenser comprising a large container, a small container positioned in said large container, large container closure means integral with said small container removably closing said large container below the top of said large container, first means carried by said large container closure means for receiving liquid from said large container, second means carried by said large container closure means for receiving liquid from said small container, third means carried by said large container closure means for receiving liquid from said first and said second means, and means separating said third means from said first and second means such that liquid does not pass from said third means to said first and second means when said dispenser is in a vertical position, outlet means carried by said third means, metering means closing the top of said first, second and third means for regulating the flow of liquid into said second means, said metering means consisting of an upper surface portion in contact with the top surface of said first, second and third means, having a depending flange in contact with the inner surface of the upper end wall of said small container, said flange having an elongated slot therein in overlying relationship with the means communicating said second compartment and said small container, said slot increasing in width from one end toward the other and being divided into two parts, the said two parts being spaced from each other.

2,784,878. PRESSURIZED PASTE DISPENSERS. Patented granted March 12, 1957 to Ignatius E. Theodorou, Haverhill, Mass.

A dispenser comprising walls defining a fluid pressure chamber and a chamber for holding a supply of material in a fluid state, means defining an outlet in a wall portion of said material-holding chamber, valve means operable to open a passage for flow of fluid under pressure from said fluid pressure chamber into material-ejecting relation to the material in said material-holding chamber, resilient means constantly biasing said valve means to a position in which it closes said flow passage, manually operable means connected to said valve means for actuating said valve means in opposition to its said bias thereby to open said flow passage, and means for venting said material-holding chamber to atmosphere in response to each movement of said valve means to its position closing said flow passage.

2,785,768. APPARATUS FOR PRODUCING LIQUID SUSPENSIONS FOR USE AS AEROSOLS. Patent granted March 19, 1957 to Fernand Gauchard, Santeny, France.

In apparatus for producing fine suspensions of liquid for use as aerosols for medicinal purposes, a chamber having means for subdividing droplets of an atomized liquid in suspension in a stream of gasiform fluid passing through said chamber, the said means consisting of stationary blades of dielectric material placed across the path of said stream, the said blades having sharp edges directed toward the oncoming stream and positioned for impingement of said droplets thereagainst and for providing an aerosol by segmentation of said droplets.

2,785,838. AEROSOL DISPENSER. Patent issued March 19, 1957 to Carl Mayer, Jr., Wilmette, Ill., assignor to Safe, Inc., Marinette, Wisc., a corporation of Wisconsin.

A valve assembly for a pressurized vessel comprising a dip-tube having its lower end within said vessel, a push wire of substantially smaller diameter than said tube slidable within said dip tube, and a valve plug attached to one end of said wire seatable on the lower end of said tube, at least one

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bio-assay
INSECTICIDE AEROSOL

- *formulation performance*
- *label claims*
- *mammalian toxicity*

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of said wire and said tube being curved and at least one of said wire and said tube being resilient to laterally displace the plug when it has been axially unseated, said plug having an obstructing portion engageable with the lower end of the dip-tube to prevent reseating.

Trade Mark Applications

Applications for registration of the following trademarks were published in recent issues of the *Official Gazette* of the U. S. Patent Office. In not all cases are there strictly aerosol trademarks, however many of the products listed below come within the category of those for which a possible future use in aerosols is foreseen.

WATER-SKIPPER, in solid lower-case letters, for industrial chemicals in the nature of a water-repellent preparation for use on various surfaces. Application filed Nov. 29, 1955 by Textile Adjuncts Corps., Brooklyn, N. Y. Claims first use Sept. 29, 1954.

ANGEL TOUCH, in capitals, for household deodorant sprays. Application filed July 10, 1956 by William Hariton, Philadelphia. First use claimed Jan. 24, 1956.

SECRET, in capitals, for personal deodorant. Application filed May 11, 1956 by The Procter & Gamble Co., Cincinnati. Claims first use March 27, 1956.

KURLY-KURL, in capitals, for hair preparation used for setting, grooming and prolonging the curl. Filed March 13, 1956 by Joe W. Bailey, d.b.a. Bailey Laboratories, Buffalo, with first use claimed for Dec. 1, 1955.

LIQUID UMBRELLA, in capitals, for hair conditioner to protect the hair against moisture. Application filed Nov. 15, 1955 by Household Products, Inc., Stamford, Conn. First use claimed July 18, 1955.

DISCRETE, in capitals, for deodorant preparation for human use. Application filed Dec. 27, 1955 by Bristol-Myers Co., New York with first use claimed Oct. 22, 1934.

ARMORSOL, in capitals, for plastic film-forming materials intended for spraying or spattering onto surfaces to form smooth or textured finishes. Application filed Nov. 13, 1956 by John L. Armitage & Co., Newark, N. J. Claims first use Dec. 6, 1954.

FIRE-BRITE, in script, for chemical compositions used for spraying logs in fireplace to give unusual colors when burning. Application filed May 3, 1956 by Wayne Davis, d.b.a. Fire-Brite Laboratories, Locust Valley, New York, with first use claimed April 5, 1956.

Victor Muscat Honored

Victor Muscat, president of Victor Metal Products Corp., and chairman of the board of Aluminum & Chemical Corp., both of Newport, Ark., recently was the recipient of the first annual Governor's Industrial Award of the State of Arkansas. He was presented the award by Secretary of Commerce Sinclair Weeks "in recognition of his contributions to the economy and welfare of the state and to the aluminum industry."

Victor Metal Products and Aluminum & Chemical produce aluminum extruded aerosol containers, as well as a number of other aluminum products.

Penick Announces "Anattene"

"Anattene®," reportedly the first vegetable coloring in the yellow-to-orange range offered commercially in both water-soluble and oil-soluble type cosmetic and pharmaceutical preparations, was recently introduced by S. B. Penick & Co., New York.

Extracted from annatto seed and produced by means of new processes developed by Penick Laboratories, "Anattene" is reported to have been tested for a year to meet the requirements for safety, stability, uniformity, and compatability. A 12-page brochure containing descriptions of all six types of "Anattene," together with technical data, is available by writing to the company at 50 Church St., New York 8.

•

Helene Curtis Moves to N. Y.

Helene Curtis Industries, Inc., Chicago, announced recently that the designing, purchasing, and laboratory departments of the Eastern operations of its Lentheric Division will be located at 117 East 24th Street, New York. Telephone number of the newly consolidated unit, which was formerly in Brooklyn and West Caldwell, N. J., is ORegon 4-0300.

•

Grace Appoints Buselli

The Polymer Chemicals Division of W. R. Grace & Co., New York, has announced the appointment of Dr. Alio J. Buselli as manager of chemical research at its Clifton, N. J. laboratories. Since 1951 he was supervisor of polymer research and development at Air Reduction Co., Murray Hill, N. J.

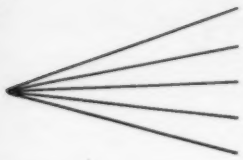
W. Alec Jordan

Chemical Business Counsel

- Marketing Analyses
- Product Development
- Evaluation of Purchasing Determinants

270 Park Ave., New York 17, N. Y.

PL 5-9345



CLASSIFIED ADVERTISING

Rates for classified advertisements are ten cents per word, $2.00 minimum, except those of individuals seeking employment which *Aerosol Age* will run without charge. Check must accompany all classified advertisements. Address all replies to Classified Advertisements with Box Number, care of *Aerosol Age*, Box 31, Caldwell, N. J. Closing date: tenth of month preceding month of issue.

SITUATION WANTED:

"CHEMIST — RESEARCH DIRECTOR with 8 years experience in Aerosol industry. Work involved research, production and quality control problems in such varied fields as household, cosmetic, chemical specialties and pharmaceuticals. Employment preferred in Connecticut-New York area but not essential." Reply Box 130, c/o Aerosol Age.

POSITION WANTED: Young man (33) with five years experience in aerosol research and development desires managerial position in Aerosol industry. B. S. degree in Biology, M.S. degree in Physics; several publications. Address Box 131, c/o Aerosol Age.

FOR SALE:

"5000—New, size 211 x 511 cans.—.50 T/O entire I/S Pl.—Body & Btm. O/S Pl. Dome Top O/S Clear Lacquer with 1" opening. Packed in cartons. These are surplus. Will sell for any reasonable offer." Address Box 132, c/o Aerosol Age.

MISCELLANEOUS:

"Experimental aerosol packing. We specialize in new products. No order too small. Write stating type, quantity, sizes." Address Box 133, c/o Aerosol Age.

Aerosols Found To Increase Total Sales

THE appearance on the market of an aerosol for any particular product type increases the total sales for that product group, reported the General Chemical Division of Allied Chemical & Dye Corp. last month. Leo J. Callens, manager of "Genetron" sales, attributed this tendency to the fact that aerosols encourage more people to buy the product and to use it more frequently than conventional-type packages.

The report predicts that the market for external analgesics should reach $82 million by 1960, but that it may reach $95 million if satisfactory aerosol analgesics are developed. If successful areosols in this field are developed, the report predicts, they may capture $30 million of the market.

Predicting an $80 million market for non-aerosol personal deodorants, on a similar basis, Mr. Callens foresees a $90 million market if aerosols enter the field—with aerosols again capturing $30 million.

Mr. Callens, who, with a team of marketing and technical men has been visiting individual drug and toilet good firms, expressed surprise that "the management of so many firms that could increase their business considerably through the use of aerosols, are unfamiliar with them." He said that General technicians are demonstrating such products as hydrocortisone ointments, nasal sprays, athlete's foot remedies, an analgesic spray, a spray-on bandage, and a foam baby soap—all in aerosol form—as a demonstration of the possibilities for this type of packaging.

He revealed that General is devoting increased attention to the new water-based aerosols, which he said will use as little as 5% propellant against up to 75% in the conventional aerosol package. He cited lower internal pressures and decreased costs as reasons for making this type aerosol so attractive to the prospective packager.

Product Survey Underway

THE Aerosol Product Survey Committee of the CSMA, meeting in New York on April 3, reported a 50% response to its products survey questionnaires. The questionnaires were mailed March 15 to a list of 67 fillers, 11 valve companies, and three container manufacturers.

Answers to the questionnaires will be compiled by Ernst & Ernst, New York, independent public accountants, and delivered as a report to the CSMA convention. The form mailed to the fillers contained the following categories; and requested data on container types and sizes in addition to number:

INSECT SPRAYS

1. Space Insecticides
2. Residual Insecticides (such as roach and ant sprays)
3. Residual Insecticides (household-garden)
4. Mothproofers

COATINGS

5. Pigmented and Metallic Paints
6. Clear Plastic Sprays

HOUSEHOLD PRODUCTS

7. Room Deodorants
8. Fire Extinguishers
9. Snow (all types)
10. Other Household Products (cleaners of all types such as glass, metal, oven, rug and upholstery; waxes, insect repellents, water repellents, shoe dressings, etc.)

PERSONAL PRODUCTS

11. Shaving Lather
12. Hair Lacquers
13. Medicinals and Pharmaceuticals (such as fungicides, burn treatments, topical antiseptics, anesthetics, antibiotics, inhalants, etc.)
14. Colognes and Perfumes
15. Other Personal Products (such as shampoos, personal deodorants, sun tan oils, hand lotions, powders, depilatories, etc.)

MISCELLANEOUS

16. Miscellaneous Products (such as pet sprays, mildew preventives, ignition sprays, anti-static sprays, stencil ink, belt dressings, industrial applications, lubricants and any others)

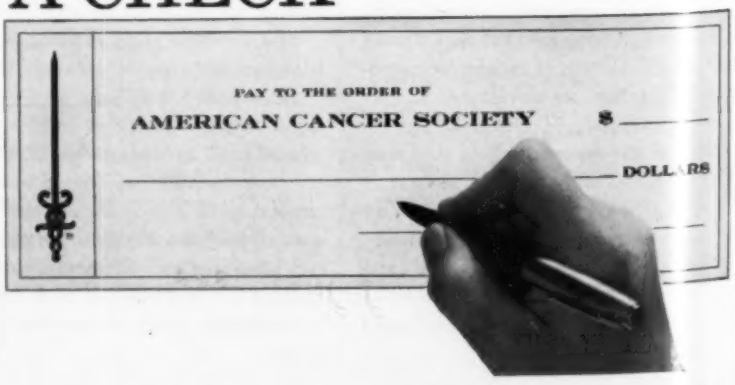
•

D&O Changes Phila. No.

Dodge & Olcott, Inc., New York, announced last month that the new number of its Philadelphia office is Walnut 5-8996. Address of the office is 503 Arch Street.

FIGHT CANCER

AND A CHECK



Isn't it wonderful? Everything's fine... no cancer! Relieved, aren't you? And smart, too! Because you've bought the best cancer insurance there is... a thorough medical checkup! Ask your doctor. *He* knows: thousands more people could be cured... *if everyone followed your footsteps!*

Isn't it tragic? 250,000 people die from cancer each year. What can *you* do? A great deal. Your dollars will help the American Cancer Society save lives. Your gift will mean more research, more service to patients, more education of the public. Mail your gift to "Cancer," in care of your local Post Office.

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TGA Convention

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"The Measurement of Consumer Reaction to Fragrances," by Noel Schwartz and Dean Foster, U. S. Testing Laboratory.

"The Antibacterial Activity of the Aluminum Salts" by Irvin H. Blank*, Ph.D, Ruth K. Dawes*, B.S. and Marjorie Moreland**, M.S.

*Department of Dermatology, Massachusetts General Hospital, Harvard Medical School.

**Summit Diagnostic Laboratories, Summit, N. J.

"Ethanolamines in Topical Preparations," by John H. Draize, Francis X. Wazeter and Elsie A. Kelley, Division of Pharmacology, Food and Drug Administration, Bureau of Biological and Physical Sciences, Washington, D. C.

LUNCHEON: Annual Cibs Award by George Kaempkes, Pacquin, President of Cibs, to authors of best paper published in The Proceedings of the Scientific Section during 1956.

"Pitfalls in Evaluating the Safety of Cosmetics," by Bernard E. Conley, Ph.D., secretary, Committee on Toxicology, American Medical Association.

"The Analytical Chemistry of Silicones in Cosmetics," by A. Pozefsky and M. E. Grenoble, General Electric Co., Chemical and Metallurgical Division, Silicone Products Dept.

"Practical Measurements of Epidermal Emolliency and Emollient Penetration" by Herbert J. Spoor, Ph.D., M.D.★

Aerosols in Review

(*From Page* 36)

flash—lights out—open camera—drop bottle and finally, close camera . . .

"The first trials produced a picture of the bottle before breaking, so a time delay had to be introduced. This was done by adding a small projection to the far side of the platform. This projection could rest on a lightly fixed upright which contained very shallow horizontal grooves, thus the platform could drop a controllable distance before operating the switch . . . Results were then consistent and reproducible."

Mr. Pickthall also goes into a discussion of propellant prices in England, pointing out that there are currently four sources of supply available: "Freons" from the U.S., "Algofrenes" from Italy, and "Arctons" and "Isecons," both made in England. "Freons" 11 and 12, according to the author, are no longer available, as their counterparts are now purchasable from English producers.

He points out that the U.S. currently enjoys a "distinct edge with dichlorotetrafluoroethane" (on the matter of comparative prices) but that English producers claim "their figure will eventually beat the American price by a good margin."★

OVER THE TRANSOM

THE question is often asked: why is it that aluminum aerosol containers have made little progress in the U. S., while they have been used so much and with such success by European packagers? There are apparently a number of contributing factors. In Europe, aluminum has long been used for a vast variety of packaging purposes, and it was natural for the new aerosol industry to look first toward this metal as a solution to its container problems. Since most of the container producers were far smaller in size than any of the American "giants," there was also the problem of the tremendous investment necessary for the production of tin-plate containers—against a considerably more modest capital requirement for the better-known aluminum. And lastly, European refining methods have kept the price of raw aluminum somewhat below ours.

* * *

This looks like the year for aluminum containers, however, with Peerless Tube, Emson Research, White Metal Products, Hunter Douglas and a number of other producers in full production. Peerless containers are being used for Lanvin perfumes, White Metal's for Picardy, Ltd. sachets, and Hampton Products (Hampton, Pa.) is making a purse-size container for Wrisley, and all the other producers are looking forward to this year as being the biggest yet for aluminum.

* * *

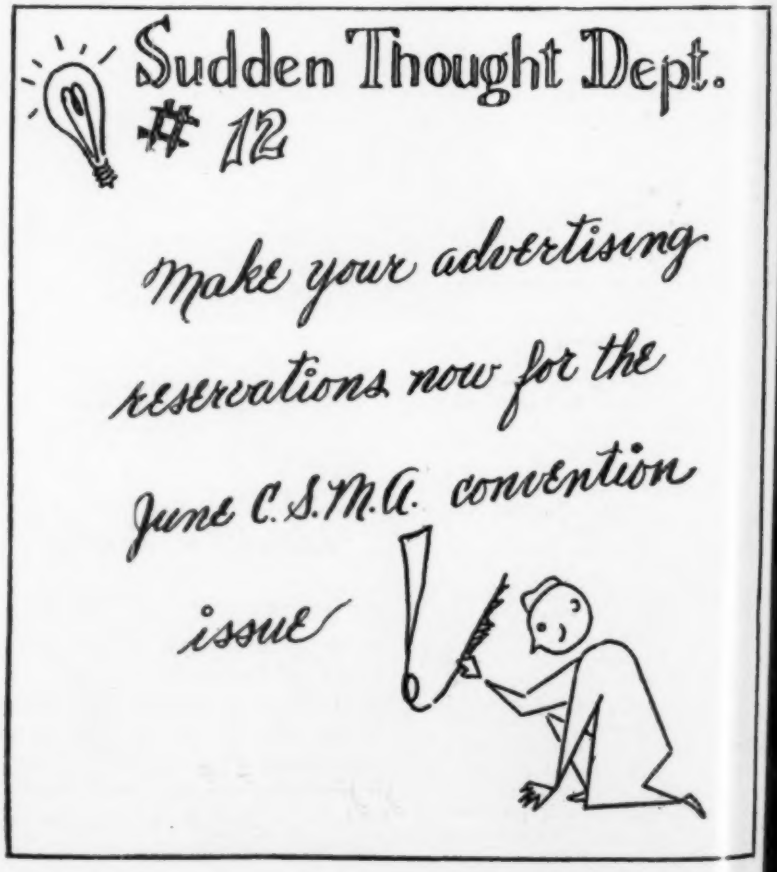
American Can's big TV promotion for aerosol packages on April 8 stressed the possibilities for pressurized products in the food field. So far at least two major companies are reported to be working on pressure-packed cheese spreads, and there may be several more also interested. The names we have heard include Reddi-Wip and Kraft, although inquiries from this office haven't yet been fully confirmed. Still in the test marketing stage, most of the firms introducing new food products seem to be understandably close-mouthed about what they are doing.

* * *

The term "aerosol" may not continue permanently to be widely used in the industry. There are many who believe that in the long run it will be found to be non-descriptive of too wide a range of pressure packed products, particularly as we get deeper into the food, cosmetic and pharmaceutical fields. As long as the aerosol market consisted primarily of mist-like or fog-like products such as insecticides, room deodorants, hair sprays, etc., "aerosol" was a satisfactory, adequately short descriptive word, but if and when we get to the point where a high percentage of the industry's products are in the form of pastes, foams, spreads, etc., perhaps some such term as "pressure package" may be found to be more accurately descriptive.

* * *

Among the major awards at the recent French Packaging Competition, sponsored by the Institut Francais de l'Emballage, was an "oscar" to S. A. Monoprix for its glass aerosol package of lavender water. The package, specially tapered to prevent slippage in moist hands, was judged to be the most economical and functional for controlled dispensing of colognes.

* * *

"Cinderella," the CBS television spectacular which it is estimated was seen by a larger audience than any previously telecast program, had Shulton, Inc. as one of its two chief sponsors. The company devoted the major portion of its commercial time to aerosol products—advertising, in addition to its shaving cream, "Desert Flower" and "Escapade," two new spray colognes in coated glass bottles. The program starred Julie Andrews and received fine reviews by N. Y. television critics. From where we sat, it looked as though Shulton should have similar plaudits not only for sponsoring the program, but for spreading the aerosol word so tastefully to an audience of 100 million people at a single clip!